# Taxonomic Checklist of Amphibian Species listed in the

# CITES Appendices and the Annexes of EC Regulation 338/97

Species information extracted from

**FROST, D. R. (2015)**
**"Amphibian Species of the World, an online Reference"**
**V. 6.0 (as of May 2015)**



Additional comments included by the
Nomenclature Specialist of the CITES Animals Committee (indicated by "NC comment")

## Amphibian Species covered by this Checklist

| Family | Species | listed by CITES as well as EC Regulation 338/97 | listed by EC-Regulation 338/97 only |
|---|---|---|---|
| | | | |
| ANURA | | | |
| | | | |
| Aromobatidae | *Allobates femoralis* | X | |
| Aromobatidae | *Allobates hodli* | X | |
| Aromobatidae | *Allobates myersi* | X | |
| Aromobatidae | *Allobates zaparo* | X | |
| Aromobatidae | *Anomaloglossus rufulus* | X | |
| Bufonidae | *Altiphrynoides malcolmi* | X | |
| Bufonidae | *Altiphrynoides osgoodi* | X | |
| Bufonidae | *Amietophrynus channingi* | X | |
| Bufonidae | *Amietophrynus superciliaris* | X | |
| Bufonidae | *Atelopus zeteki* | X | |
| Bufonidae | *Incilius periglenes* | X | |
| Bufonidae | *Nectophrynoides asperginis* | X | |
| Bufonidae | *Nectophrynoides cryptus* | X | |
| Bufonidae | *Nectophrynoides frontierei* | X | |
| Bufonidae | *Nectophrynoides laevis* | X | |
| Bufonidae | *Nectophrynoides laticeps* | X | |
| Bufonidae | *Nectophrynoides minutus* | X | |
| Bufonidae | *Nectophrynoides paulae* | X | |
| Bufonidae | *Nectophrynoides poyntoni* | X | |
| Bufonidae | *Nectophrynoides pseudotornieri* | X | |
| Bufonidae | *Nectophrynoides tornieri* | X | |
| Bufonidae | *Nectophrynoides vestergaardi* | X | |
| Bufonidae | *Nectophrynoides viviparus* | X | |
| Bufonidae | *Nectophrynoides wendyae* | X | |
| Bufonidae | *Nimbaphrynoides occidentalis* | X | |
| Calyptocephalellidae | *Calyptocephalella gayi* | X | |
| Conrauidae | *Conraua goliath* | | X |
| Dendrobatidae | *Adelphobates castaneoticus* | X | |
| Dendrobatidae | *Adelphobates galactonotus* | X | |
| Dendrobatidae | *Adelphobates quinquevittatus* | X | |
| Dendrobatidae | *Ameerega altamazonica* | X | |
| Dendrobatidae | *Ameerega andina* | X | |
| Dendrobatidae | *Ameerega bassleri* | X | |
| Dendrobatidae | *Ameerega berohoka* | X | |
| Dendrobatidae | *Ameerega bilinguis* | X | |
| Dendrobatidae | *Ameerega boehmei* | X | |
| Dendrobatidae | *Ameerega boliviana* | X | |
| Dendrobatidae | *Ameerega braccata* | X | |
| Dendrobatidae | *Ameerega cainarachi* | X | |
| Dendrobatidae | *Ameerega erythromos* | X | |

| Family | Species | listed by CITES as well as EC Regulation 338/97 | listed by EC-Regulation 338/97 only |
|---|---|---|---|
| Dendrobatidae | *Ameerega flavopicta* | X | |
| Dendrobatidae | *Ameerega hahneli* | X | |
| Dendrobatidae | *Ameerega ignipedis* | X | |
| Dendrobatidae | *Ameerega ingeri* | X | |
| Dendrobatidae | *Ameerega labialis* | X | |
| Dendrobatidae | *Ameerega macero* | X | |
| Dendrobatidae | *Ameerega maculata* | X | |
| Dendrobatidae | *Ameerega parvula* | X | |
| Dendrobatidae | *Ameerega pepperi* | X | |
| Dendrobatidae | *Ameerega peruviridis* | X | |
| Dendrobatidae | *Ameerega petersi* | X | |
| Dendrobatidae | *Ameerega picta* | X | |
| Dendrobatidae | *Ameerega planipaleae* | X | |
| Dendrobatidae | *Ameerega pongoensis* | X | |
| Dendrobatidae | *Ameerega pulchripecta* | X | |
| Dendrobatidae | *Ameerega rubriventris* | X | |
| Dendrobatidae | *Ameerega silverstonei* | X | |
| Dendrobatidae | *Ameerega simulans* | X | |
| Dendrobatidae | *Ameerega smaragdina* | X | |
| Dendrobatidae | *Ameerega trivittata* | X | |
| Dendrobatidae | *Ameerega yoshina* | X | |
| Dendrobatidae | *Ameerega yungicola* | X | |
| Dendrobatidae | *Andinobates abditus* | X | |
| Dendrobatidae | *Andinobates altobueyensis* | X | |
| Dendrobatidae | *Andinobates bombetes* | X | |
| Dendrobatidae | *Andinobates cassidyhornae* | X | |
| Dendrobatidae | *Andinobates claudiae* | X | |
| Dendrobatidae | *Andinobates daleswansoni* | X | |
| Dendrobatidae | *Andinobates dorisswansonae* | X | |
| Dendrobatidae | *Andinobates fulguritus* | X | |
| Dendrobatidae | *Andinobates geminisae* | X | |
| Dendrobatidae | *Andinobates minutes* | X | |
| Dendrobatidae | *Andinobates ophistomelas* | X | |
| Dendrobatidae | *Andinobates tolimensis* | X | |
| Dendrobatidae | *Andinobates viridis* | X | |
| Dendrobatidae | *Andinobates virolinensis* | X | |
| Dendrobatidae | *Dendrobates auratus* | X | |
| Dendrobatidae | *Dendrobates leucomelas* | X | |
| Dendrobatidae | *Dendrobates nubeculosus* | X | |
| Dendrobatidae | *Dendrobates tinctorius* | X | |
| Dendrobatidae | *Dendrobates truncatus* | X | |
| Dendrobatidae | *Epipedobates anthonyi* | X | |
| Dendrobatidae | *Epipedobates boulengeri* | X | |
| Dendrobatidae | *Epipedobates darwinwallacei* | X | |
| Dendrobatidae | *Epipedobates espinosai* | X | |
| Dendrobatidae | *Epipedobates machalilla* | X | |

| Family | Species | listed by CITES as well as EC Regulation 338/97 | listed by EC-Regulation 338/97 only |
|---|---|---|---|
| Dendrobatidae | *Epipedobates narinensis* | X | |
| Dendrobatidae | *Epipedobates tricolor* | X | |
| Dendrobatidae | *Excidobates captivus* | X | |
| Dendrobatidae | *Excidobates condor* | X | |
| Dendrobatidae | *Excidobates mysteriosus* | X | |
| Dendrobatidae | *Hyloxalus azureiventris* | X | |
| Dendrobatidae | *Minyobates steyermarki* | X | |
| Dendrobatidae | *Oophaga arborea* | X | |
| Dendrobatidae | *Oophaga granulifera* | X | |
| Dendrobatidae | *Oophaga histrionica* | X | |
| Dendrobatidae | *Oophaga lehmanni* | X | |
| Dendrobatidae | *Oophaga occultator* | X | |
| Dendrobatidae | *Oophaga pumilio* | X | |
| Dendrobatidae | *Oophaga speciosa* | X | |
| Dendrobatidae | *Oophaga sylvatica* | X | |
| Dendrobatidae | *Oophaga vicentei* | X | |
| Dendrobatidae | *Phyllobates aurotaenia* | X | |
| Dendrobatidae | *Phyllobates bicolor* | X | |
| Dendrobatidae | *Phyllobates lugubris* | X | |
| Dendrobatidae | *Phyllobates terribilis* | X | |
| Dendrobatidae | *Phyllobates vittatus* | X | |
| Dendrobatidae | *Ranitomeya amazonica* | X | |
| Dendrobatidae | *Ranitomeya benedicta* | X | |
| Dendrobatidae | *Ranitomeya cyanovittata* | X | |
| Dendrobatidae | *Ranitomeya defleri* | X | |
| Dendrobatidae | *Ranitomeya fantastica* | X | |
| Dendrobatidae | *Ranitomeya flavovittata* | X | |
| Dendrobatidae | *Ranitomeya imitator* | X | |
| Dendrobatidae | *Ranitomeya reticulata* | X | |
| Dendrobatidae | *Ranitomeya sirensis* | X | |
| Dendrobatidae | *Ranitomeya summersi* | X | |
| Dendrobatidae | *Ranitomeya toraro* | X | |
| Dendrobatidae | *Ranitomeya uakarii* | X | |
| Dendrobatidae | *Ranitomeya vanzolinii* | X | |
| Dendrobatidae | *Ranitomeya variabilis* | X | |
| Dendrobatidae | *Ranitomeya ventrimaculata* | X | |
| Dendrobatidae | *Ranitomeya yavaricola* | X | |
| Dicroglossidae | *Euphlyctis hexadactylus* | X | |
| Dicroglossidae | *Hoplobatrachus tigerinus* | X | |
| Dicroglossidae | *Limnonectes macrodon* | | X |
| Hylidae | *Agalychnis annae* | X | |
| Hylidae | *Agalychnis callidryas* | X | |
| Hylidae | *Agalychnis moreletii* | X | |
| Hylidae | *Agalychnis saltator* | X | |
| Hylidae | *Agalychnis spurrelli* | X | |
| Hylidae | *Phyllomedusa sauvagii* | | X |

| Family | Species | listed by CITES as well as EC Regulation 338/97 | listed by EC-Regulation 338/97 only |
|---|---|---|---|
| Leptodactylidae | *Leptodactylus laticeps* | | X |
| Mantellidae | *Mantella aurantiaca* | X | |
| Mantellidae | *Mantella baroni* | X | |
| Mantellidae | *Mantella bernhardi* | X | |
| Mantellidae | *Mantella betsileo* | X | |
| Mantellidae | *Mantella cowanii* | X | |
| Mantellidae | *Mantella crocea* | X | |
| Mantellidae | *Mantella ebenaui* | X | |
| Mantellidae | *Mantella expectata* | X | |
| Mantellidae | *Mantella haraldmeieri* | X | |
| Mantellidae | *Mantella laevigata* | X | |
| Mantellidae | *Mantella madagascariensis* | X | |
| Mantellidae | *Mantella manery* | X | |
| Mantellidae | *Mantella milotympanum* | X | |
| Mantellidae | *Mantella nigricans* | X | |
| Mantellidae | *Mantella pulchra* | X | |
| Mantellidae | *Mantella viridis* | X | |
| Microhylidae | *Dyscophus antongilii* | X | |
| Microhylidae | *Scaphiophryne gottlebei* | X | |
| Myobatrachidae | *Rheobatrachus** | X* | |
| Ranidae | *Lithobates catesbeianus* | | X |
| Ranidae | *Pelophylax shqipericus* | | X |
| | | | |
| | | | |
| CAUDATA | | | |
| | | | |
| Ambystomatidae | *Ambystoma dumerilii* | X | |
| Ambystomatidae | *Ambystoma mexicanum* | X | |
| Cryptobranchidae | *Andrias davidianus* | X | |
| Cryptobranchidae | *Andrias japonicus* | X | |
| Cryptobranchidae | *Cryptobranchus alleganiensis* | X | |
| Hynobiidae | *Hynobius amjiensis* | X | |
| Hynobiidae | *Ranodon sibiricus* | | X |
| Plethodontidae | *Bolitoglossa dofleini* | | X |
| Salamandridae | *Cynops ensicauda* | | X |
| Salamandridae | *Echinotriton andersoni* | | X |
| Salamandridae | *Laotriton laoensis* | | X |
| Salamandridae | *Liangshantriton taliangensis* | | X |
| Salamandridae | *Neurergus kaiseri* | X | |
| Salamandridae | *Paramesotriton caudopunctatus* | | X |
| Salamandridae | *Paramesotriton chinensis* | | X |
| Salamandridae | *Paramesotriton deloustali* | | X |
| Salamandridae | *Paramesotriton fuzhongensis* | | X |
| Salamandridae | *Paramesotriton guangxiensis* | | X |
| Salamandridae | *Paramesotriton hongkongensis* | | X |
| Salamandridae | *Paramesotriton labiatus* | | X |

| Family | Species | listed by CITES as well as EC Regulation 338/97 | listed by EC-Regulation 338/97 only |
|---|---|---|---|
| Salamandridae | *Paramesotriton longliensis* | | X |
| Salamandridae | *Paramesotriton maolanensis* | | X |
| Salamandridae | *Paramesotriton qixilingensis* | | X |
| Salamandridae | *Paramesotriton wulingensis* | | X |
| Salamandridae | *Paramesotriton yunwuensis* | | X |
| Salamandridae | *Paramesotriton zhijinensis* | | X |
| Salamandridae | *Salamandra algira* | | X |
| Salamandridae | *Tylototriton anguliceps* | | X |
| Salamandridae | *Tylototriton asperrimus* | | X |
| Salamandridae | *Tylototriton broadoridgus* | | X |
| Salamandridae | *Tylototriton dabienicus* | | X |
| Salamandridae | *Tylototriton hainanensis* | | X |
| Salamandridae | *Tylototriton kweichowensis* | | X |
| Salamandridae | *Tylototriton liuyangensis* | | X |
| Salamandridae | *Tylototriton lizhengchangi* | | X |
| Salamandridae | *Tylototriton notialis* | | X |
| Salamandridae | *Tylototriton panhai* | | X |
| Salamandridae | *Tylototriton pseudoverrucosus* | | X |
| Salamandridae | *Tylototriton shanjing* | | X |
| Salamandridae | *Tylototriton shanorum* | | X |
| Salamandridae | *Tylototriton uyenoi* | | X |
| Salamandridae | *Tylototriton verrucosus* | | X |
| Salamandridae | *Tylototriton vietnamensis* | | X |
| Salamandridae | *Tylototriton wenxianenses* | | X |
| Salamandridae | *Tylototriton yangi* | | X |
| Salamandridae | *Tylototriton ziegleri* | | X |

# Anura

## AROMOBATIDAE

### Genus: *Allobates* Zimmermann and Zimmermann, 1988

***Allobates femoralis* (Boulenger, 1884)**

- *Prostherapis femoralis*Boulenger, 1884 "1883", Proc. Zool. Soc. London, 1883: 635. Syntypes: BMNH 1947.2.14.21-22; UMMZ 48070 considred a "cotype" (presumably exchanged from BMNH) by Peters, 1952, Occas. Pap. Mus. Zool. Univ. Michigan, 539: 21. BMNH 1947.2.14.21 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 31. Type locality: "Yurimaguas, HuallagaRiver, [Loreto,] Northern Peru".
- *Phyllobates femoralis* — Barbour and Noble, 1920, Bull. Mus. Comp. Zool., 63: 401; Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 5.
- *Dendrobates femoralis* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates femoralis* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Allobates femoralis* — Zimmermann and Zimmermann, 1988, Salamandra, 24: 137; Clough and Summers, 2000, Biol. J. Linn. Soc., 70: 515-540.
- *Allobates femoralis* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 162.

**Distribution:** Lowland forests of eastern Venezuela, Guyana, Surinam, and French Guiana, and of the Amazon drainage of Colombia, Ecuador, Peru, Bolivia, and Brazil; dense forests of the Napo and Pastaza drainages of Ecuador, east of the Andes; southern Cordillera Oriental of Peru.

**Comment:** See comment under *Phyllobates aurotaenia* (Dendrobatidae). Clough and Summers, 2000, Biol. J. Linn. Soc., 70: 515-540, suggested that *Allobates femoralis* is likely a species complex as well as the sister taxon of the toxic dendrobatids, although this latter point is not consistent with the results of Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299. Lescure and Marty, 2000, Collect. Patrimoines Nat., Paris, 45: 94-95, provided a brief account (as *Epipedobates femoralis*) and photo. Schulte, 1999, Pfeilgiftfrösche: 253-260, provided an account. See De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 29, for Bolivian record. Barrio-Amorós, 2004, Rev. Ecol. Latino Am., 9: 9, reported on distribution and noted that the record for Amazonian Venezuela was based on a specimen of *Epipedobates guanayensis* (now *Ameerega picta)*. See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 304-310. Amézquita, Lima, Jehle, Castellanos, Ramos, Crawford, Gasser, and Hödl, 2009, Biol. J. Linn. Soc., 98: 826-838, reported on geographic variation in calls, morphology, and molecular markers. Simões, Lima, and Farias, 2010, Zootaxa, 2406: 1-28, noted that populations in the state of Acre are more closely related to *Allobates hodli* than to more distant populations of nominal *Allobates femoralis*. Barrio-Amorós and Santos, 2010, Check List, 6: 208–209, provided records for the state of Bolívar, eastern Venezuela. See account for Surinam population by Ouboter and Jairam, 2012, Amph. Suriname: 20-22. See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 370, for brief account of population in Guyana. Simões, Lima, and Farias, 2012, Conserv. Genet., 13: 1145–1159, reported on a hybrid zone in western Amazonia with *Allobates hodli*.

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***Allobates hodli* Simões, Lima, and Farias, 2010**

- *Allobates hodli*Simões, Lima, and Farias, 2010, Zootaxa, 2406: 5. Holotype: NPA-H 16555, by original designation. Type locality: "Cachoeira do Jirau, on the left bank of the upper Madeira River (09.3347° S, 64.7375° W), approximately 125 km upstream from the city of Porto Velho, Estado de Rondônia, Brazil".

**Distribution:** Southwestern Brazilian Amazonia from Cachoeira do Jirau (Municipality of Porto Velho) to the eastern reaches of the Municipality of Rio Branco in the state of Acre.

**Comment:** In the *Allobates femoralis* complex according to the original publication. Simões, Lima, and Farias, 2012, Conserv. Genet., 13: 1145–1159, reported on a hybrid zone in western Amazonia with *Allobates femoralis*.

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***Allobates myersi* (Pyburn, 1981)**

- *Dendrobates myersi*Pyburn, 1981, Proc. Biol. Soc. Washington, 94: 67. Holotype: UTA A-3989, by original designation. Type locality: "near Wacará (elev. 216 m, long. 69° 53′ W, lat. 1° 08′ N), Comisaria de Vaupés, Colombia".
- *Epipedobates myersi* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega myersi* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.
- *Allobates myersi* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 162.

**Distribution:** Rainforests of Amazonian Colombia (departments of Amazonas, Caquetá, and Vaupés), ca. 200 m elevation; likely to be found in adjacent Brazil and northeastern Peru.

**Comment:** See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 311.

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***Allobates zaparo* (Silverstone, 1976)**

- *Phyllobates zaparo*Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 33. Holotype: KU 120669, by original designation. Type locality: "2 km west of Canelos, Provincia de Pastaza, Ecuador, 580 m."
- *Dendrobates zaparo* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobateszaparo* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Allobateszaparo* — Vences, Kosuch, Boistel, Haddad, La Marca, and Lötters, 2003, Organisms Divers. Evol., 3: 215. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 162.

**Distribution:** Dense forests of the Napo and Pastaza drainages of Ecuador, east of the Andes, extending to adjacent Peru; southern Cordillera Oriental of Peru.

**Comment:** In the former *Epipedobates femoralis* group prior to its transfer to *Allobates* by Vences, Kosuch, Boistel, Haddad, La Marca, and Lötters, 2003, Organisms Divers. Evol., 3: 215). See Schulte, 1987, Sauria, Berlin, 9: 17-18, for southern Peruvian record. Schulte, 1999, Pfeilgiftfrösche: 214-216, and Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 314-315, provided accounts.

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## Genus: *Anomaloglossus* Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006

***Anomaloglossus rufulus* (Gorzula, 1990)**

- *Dendrobates rufulus*Gorzula, 1990 "1988", Mem. Soc. Cienc. Nat. La Salle, 48: 144. Holotype: MHNLS 10361, by original designation. Type locality: "borde nor-oeste del Amuri-tepui en el Macizo del Chimantá (CHIMANTA XVIII), 05° 22′ —62° 05′ W. 2.600 m, Estado Bolívar, Venezuela".
- *Epipedobates rufulus* — Walls, 1994, Jewels of the Rainforest: 26, 241. Myers, 1997, Acta Terramaris, Caracas, 10: 3.

- *Allobates rufulus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 162.
- *Anomaloglossus rufulus* — Barrio-Amorós and Santos, 2011, Salamandra, 47: 155.

**Distribution:** Likely endemic to the summit of the Chimantá Massif, Bolívar, Venezuela.

**Comment:** Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 26, placed this species in the *Dendrobates femoralis* group of Silverstone, which is currently distributed among *Ameerega* and *Allobates*. See distributional comments by Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 26 (as *Dendrobates rufulus*). See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 312-313. Barrio-Amorós and Santos, 2009, Phyllomedusa, 8: 92, suggested that this species is not a member of *Allobates*, but did not suggest an alternative generic assignment. Barrio-Amorós and Santos, 2011, Salamandra, 47: 155-160, allocated the species to *Anomaloglossus* and rediagnosed the species based on additional material.

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# BUFONIDAE

## Genus: *Altiphrynoides* Dubois, 1987

### *Altiphrynoides malcolmi* (Grandison, 1978)

- *Nectophrynoides malcolmi*Grandison, 1978, Monit. Zool. Ital., N.S., Suppl., 11: 124. Holotype: BMNH 1975.1961, by original designation. Type locality: "6-8 km SE Goba, road to Maslo, Balé Province, Ethiopia, 06° 59′ N-40° 01′ E, elevation 3200 m".
- *Altiphrynoidesmalcolmi* — Dubois, 1987 "1986", Alytes, 5: 27.

**Distribution:** BaleMountains at altitudes of 3200-4000 m, Bale Province, Ethiopia.

**Comment:** See Largen, 2001, Tropical Zool., 14: 326, for comments on distribution. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 156. See account (as *Altiphrynoides malcolmi*), photograph, and map for Ethiopia by Largen and Spawls, 2010, Amph. Rept. Ethiopia Eritrea: 100-101. See comments by Channing, Rödel, and Channing, 2012, Tadpoles of Africa: 127, regarding larval life history.

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### *Altiphrynoides osgoodi* (Loveridge, 1932)

- *Bufo osgoodi*Loveridge, 1932, Occas. Pap. Boston Soc. Nat. Hist., 8: 47. Holotype: FMNH 12529, by original designation. Type locality: "Ethiopia . . . . If it is a mountain form it probably came from the GedebMountains of Bali, just south of the western branch of the WebiShebiliRiver, . . . . in deep forest and . . . from eight to ten thousand feet".
- *Nectophrynoides osgoodi* — Grandison, 1978, Monit. Zool. Ital., N.S., Suppl., 11: 136.
- *Spinophrynoides osgoodi* — Dubois, 1987 "1986", Alytes, 5: 26.
- *Altiphrynoides osgoodi* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 363.

**Distribution:** Mountains of south-central Ethiopia (Arussi, Balé, Sidamo, and Gamo Gofa, provinces), 1950-3520 m elevation.

**Comment:** See Largen, 2001, Tropical Zool., 14: 326-327, for comments on distribution. Tandy and Keith, 1972, *in* Blair (ed.), Evol. Genus *Bufo*: 156, considered *Bufo osgoodi* to be a member of the *Bufo taitanus* complex (now part of *Mertensophryne*). See photograph, map, description of geographic range and habitat, and conservation status (as *Spinophrynoides osgoodi*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 204. See account (as *Spinophrynoides osgoodi*), photograph, and map for Ethiopia by Largen and Spawls, 2010, Amph.

Rept. Ethiopia Eritrea: 98-99. See comments regarding larval life history by Channing, Rödel, and Channing, 2012, Tadpoles of Africa: 127.

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## Genus: *Amietophrynus* Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006

### *Amietophrynus channingi* Barej, Schmitz, Menegon, Hillers, Hinkel, Böhme, and Rödel, 2011

- Amietophrynus channingiBarej, Schmitz, Menegon, Hillers, Hinkel, Böhme, and Rödel, 2011, Zootaxa, 2772: 18. Holotype: MTSN 9674, by original designation. Type locality: "Democratic Republic of Congo, West Mwana, Itombwe Massif, 028.13875 E, 03.83781 S, 1302 m a.s.l.".

**Distribution:** Northeastern Dem. Rep. Congo (provinces of Orientale and Nord Kivu), possibly extending into adjacent Rwanda, Burundi, and Uganda but not so far documented outside of Dem. Rep. Congo.

**Comment:** In the Amietophrynus superciliaris complex according to the original publication. See comment under Amietophrynus superciliaris. Channing, Rödel, and Channing, 2012, Tadpoles of Africa: 128–129, reported on comparative tadpole morphology.

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### *Amietophrynus superciliaris* (Boulenger, 1888)

- Bufo superciliarisBoulenger, 1888 "1887", Proc. Zool. Soc. London, 1887: 565. Syntypes: BMNH 1947.2.21.41-49 (formerly 87.12.21.10-18), according to A.G.C. Grandison IN Frost, 1985, Amph. Species World: 61. Type locality: "Rio del Rey, Cameroons", Africa.
- Bufo laevissimusWerner, 1897, Sitzungsber. Akad. Wiss. München, 27: 212. Syntypes: Not designated; ZSM 148/1989/1-2 (2 juveniles) and ZSM 1113.0 (lost) by museum records according to Glaw and Franzen, 2006, Spixiana, München, 29: 161. Type locality: "Kamerun". Synonymy with *Bufo superciliaris* by Boulenger, 1900, Proc. Zool. Soc. London, 1900: 436.
- Bufo superciliosus — Werner, 1897, Sitzungsber. Akad. Wiss. München, 27: 214. Incorrect subsequent spelling.
- Bufo ChevalieriMocquard, 1908, Bull. Mus. Natl. Hist. Nat. Paris, 14: 262. Holotype: MNHNP 1908.33, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 12. Type locality: "Côte-d'Ivoire". Synonymy; without discussion, by Tandy and Keith, 1972, *in* Blair (ed.), Evol. Genus *Bufo*: 160.
- Amietophrynus superciliaris — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 363.
- Amietophrynus superciliaris superciliaris — Barej, Schmitz, Menegon, Hillers, Hinkel, Böhme, and Rödel, 2011, Zootaxa, 2772: 9.
- Amietophrynus superciliaris chevalieri — Barej, Schmitz, Menegon, Hillers, Hinkel, Böhme, and Rödel, 2011, Zootaxa, 2772: 9.

**Distribution** In two blocks of West African blocks of forest: 1) southeastern Guinea, eastern Sierra Leone, Liberia, and southern Ivory Coast to southwestern Ghana; 2) southeastern Nigeria south through western Cameroon and Equatorial Guinea to northern Gabon. An isolated record in southwestern Central African Republic may refer to this species or to *Amietophrynus channingi*.

**Comment:** See account in Perret, 1966, Zool. Jahrb., Jena, Abt. Syst., 93: 312-313 (in the sense of including what is now *Amietophrynus channingi*). In the *Bufo superciliaris* group of Martin, 1972, *in* Blair (ed.), Evol. Genus *Bufo*: 62, and Tandy and Keith, 1972, *in* Blair (ed.), Evol. Genus *Bufo*: 160. Gabon records by Lötters, Gossmann, Obame, and Böhme, 2001, Herpetofauna, Weinstadt, 23: 22, and Frétey and Blanc, 2001, Bull. Soc. Zool. France, 126: 380, reported this species from Gabon. See brief comments by Rödel, Bangoura, and Böhme, 2004, Herpetozoa, 17: 108, regarding range and natural history. Schiøtz, 1963, Vidensk. Medd. Dansk Naturhist. Foren., 125: 22, provided records for Nigeria. Hillers and Rödel, 2007, Salamandra, 43: 1-10, reported the species for Liberia. Barej,

Schmitz, Menegon, Hillers, Hinkel, Böhme, and Rödel, 2011, Zootaxa, 2772: 1-32, provided the most recent revision, recognizing the eastern Dem. Rep. Congo population as Amietophrynus channingi, and the populations in the eastern and western Guinean forest blocks as, respectively, *Amietophrynus superciliaris chevalieri* and *Amietophrynus superciliaris superciliaris*. Amietophrynus superciliaris superciliaris appears to share with *Amietophrynus* the apparent synapomorphy of a distinctive eyelid process, suggesting that nominal *Amietophrynus superciliaris* is paraphyletic with respect to Amietophrynus channingi. Should this be the case one expects that these allopatric and diagnosable subspecies should be regarded as species, *Amietophrynus chevalieri* and *Amietophrynus superciliaris* (DRF).

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## Genus: *Atelopus* Duméril and Bibron, 1841

### *Atelopus zeteki* Dunn, 1933

- *Atelopus varius zeteki*Dunn, 1933, Occas. Pap. Boston Soc. Nat. Hist., 8: 71. Holotype: MCZ 16018, by original designation. Type locality: "El Valle [del Antón]", Panama.
- *Atelopus zeteki* — Kim, Brown, Mosher, and Fuhrman, 1975, Science, 189: 152; Lynch, 1993, Alytes, 11: 77-87.

**Distribution:** Cerro Campana–Valle de Antón region of western Panama in lowland rainforest.

**Comment:** In the *Atelopus ignescens* group of Lynch, 1993, Alytes, 11: 77-87. Skin alkoloid evidence provided by Kim, Brown, Mosher, and Fuhrman, 1975, Science, 189: 151–152, suggested that *Atelopus varius zeteki* Dunn, 1933, is a distinct species. See comments by Savage, 2002, Amph. Rept. Costa Rica: 191, on the distinctiveness of this taxon from *Atelopus varius*. Richards and Knowles, 2007, Mol. Ecol., 16: 3119–3133, reported on the molecular and ecological distinctiveness of the two species. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 178. Ibáñez, Kahn, and Rueda-Martínez, 2005, *in* Rueda-Almonacid et al. (eds.), Ranas Arlequines: 117, provided a brief account, photograph, and map. Köhler, 2011, Amph. Cent. Am.: 98–102, compared this to the other species of Central America and provided a map and photograph.

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## Genus: *Incilius* Cope, 1863

### *Incilius periglenes* (Savage, 1967)

- *Bufo periglenes*Savage, 1967 "1966", Rev. Biol. Tropical, 14: 153. Holotype: LACM 1893, by original designation. Type locality: "Costa Rica: Provincia de Alajuela: Cantón de San Carlos: Cordillera de Tilarán, 2 miles ENE of Monteverde, Provincia de Puntarenas; 1590 meters". Savage, 1974, Rev. Biol. Tropical, 22: 98, commented on the type locality.
- *Cranopsis periglenes* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 364.
- *Ollotis periglenes* — Frost, Grant, and Mendelson, 2006, Copeia, 2006: 558, by implication.
- *Incilius periglenes* — Frost, Mendelson, and Pramuk, 2009, Copeia, 2009: 418-419, by implication.

**Distribution:** Restricted (formerly; see comment) to the lower montane zone on both slopes along the continental divide between Puntarenas and Alajuela Provinces, Costa Rica, generally north and east of Monteverde, 1500–1620 m elevation.

**Comment:** In the former *Bufo periglenes* group of Martin, 1972, *in* Blair (ed.), Evol. Genus *Bufo*: 53. See account by Savage, 2002, Amph. Rept. Costa Rica: 202–203. Extinct according to Pounds, Fogden, Savage, and Gorman, 1997, Conserv. Biol., 11: 1307–1322. See map, description of geographic range and habitat, and conservation status (as *Bufo periglenes*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 137. Mendelson, Mulcahy, Williams, and Sites, 2011, Zootaxa, 3138: 1–34, suggested that this species is a member of

a monophyletic *Incilius coniferus* group that includes *Incilius coniferus*, *Incilius chompipe*, *Incilius epioticus*, *Incilius fastidiosus*, *Incilius guanacastes*, *Incilius holdridgei*, *Incilius karenlipsae*, *Incilius periglenes*, and *Incilius peripatetes*. Köhler, 2011, Amp. Cent. Am.: 104–115, compared this species to others in Central America and provided a range map and photograph.

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## Genus: *Nectophrynoides* Noble, 1926

### *Nectophrynoides asperginis* Poynton, Howell, Clarke, and Lovett, 1999

- *Nectophrynoides asperginis*Poynton, Howell, Clarke, and Lovett, 1999 "1998", Afr. J. Herpetol., 47: 61. Holotype: BMNH 1998.136, by original designation. Type locality: "Kihansi River Gorge upper falls spray wetland, Udzungwa Mountains, Tanzania, ± 8° 35′ S 35° 51′ E, 940 m elevation".

**Distribution:** Known only from the type locality in the Kihansi Gorge in the UdzungwaMountains, Tanzania.

**Comment:** See Channing and Howell, 2006, Amph. E. Afr.: 106-108, for account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 196. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 130–131, provided a brief account and photograph.

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### *Nectophrynoides cryptus* Perret, 1971

- *Nectophrynoides cryptus*Perret, 1971, Ann. Fac. Sci. Cameroun, 6: 104. Holotype: MCZ 12480, by original designation. Type locality: "Nyingwa, Monts Uluguru, 7 10′ S: 37 40′ E, Tanzanie, 2,200 m".

**Distribution:** UluguruMountains, 600 to 2200 m elevation, Tanzania.

**Comment:** Discussed by Perret, 1972, Ann. Fac. Sci. Cameroun, 11: 93-119.
See Channing and Howell, 2006, Amph. E. Afr.: 108-109, for account. See map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 197. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 132–133, provided a brief account.

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### *Nectophrynoides frontierei* Menegon, Salvidio, and Loader, 2004

- *Nectophrynoides frontierei*Menegon, Salvidio, and Loader, 2004, Tropical Zool., 17: 105. Holotype: BMNH 2000.231, by original designation. Type locality: "at 920 m . . . . Amani-SigiForest, Amani Nature Reserve, EastUsambaraMountains, north eastern Tanzania (05° 07′ S, 38° 39′ E)".

**Distribution:** Known only from the type locality (Amani-SigiForest, Amani Nature Reserve, EastUsambaraMountains, northeastern Tanzania, 920 m elevation).

**Comment:** See Channing and Howell, 2006, Amph. E. Afr.: 109, for account. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 134–135, provided a brief account.

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***Nectophrynoides laevis* Menegon, Salvidio, and Loader, 2004**

- *Nectophrynoides laevis*Menegon, Salvidio, and Loader, 2004, Tropical Zool., 17: 107. Holotype: BMNH 2000.233, by original designation. Type locality: "Uluguru South Forest Reserve, UluguruMountains, Morogoro Region, eastern Tanzania (7° 01′-7° 12′ S, 37° 36′—37° 45′ E)".

**Distribution:** Known only from the type locality (Uluguru South Forest Reserve, 2000 m elevation, UluguruMountains, Morogoro Region, eastern Tanzania).

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 110, provided an account. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 136–137, provided a brief account.

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***Nectophrynoides laticeps* Channing, Menegon, Salvidio, and Akker, 2005**

- *Nectophrynoides laticeps*Channing, Menegon, Salvidio, and Akker, 2005, Afr. J. Herpetol., 54: 150. Holotype: MTSN 5640, by original designation. Type locality: "Mamiwa-Kisara Forest Reserve, 1850 m, 06° 22′ 48″ S, 36° 56′ 02″ E. This is situated in the UkaguruMountains, Kilosa District, Morogoro Region, Tanzania".

**Distribution:** Ukaguru Mountains, Tanzania, 1800–2200 m elevation.

**Comment:** Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 138–139, provided a brief account and photograph.

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***Nectophrynoides minutus* Perret, 1972**

- Nectophrynoides minutusPerret, 1972, Ann. Fac. Sci. Cameroun, 11: 106. Holotype: MCZ 12463, by original designation. Type locality: "Bagilo, Monts Uluguru, 2200 m d'altitude, 7-10 S, 37-40 E, Tanzanie".

**Distribution:** Forest and grassland at high altitudes, above 1200 m, on the Uluguru and Rebeho Mountains, Tanzania.

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 110-111, provided an account. See map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 196. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 140–141, provided a brief account and photograph.

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***Nectophrynoides paulae* Menegon, Salvidio, Ngalason, and Loader, 2007**

- Nectophrynoides paulaeMenegon, Salvidio, Ngalason, and Loader, 2007, Zootaxa, 1541: 32. Holotype: MTSN 5630, by original designation. Type locality: "Mamiwa-Kisara North Forest Reserve . . . , at 1800 m above sea level, Ukaguru Mountains, Kilosa District, Morogoro Region, Tanzania (UTM coordinates: 37M 0270973/ 9295414)".

**Distribution:** Known only from the type locality (Mamiwa-Kisara North Forest Reserve, 1800 m elevation) in the UkaguruMountains, Kilosa District, Morogoro Region, Tanzania.

**Comment:** Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 142–143, provided a brief account and photograph.

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***Nectophrynoides poyntoni* Menegon, Salvidio, and Loader, 2004**

Nectophrynoides poyntoniMenegon, Salvidio, and Loader, 2004, Tropical Zool., 17: 107. Holotype: MTSN 5077, by original designation. Type locality: "Mkalazi Valley, at about 1200 m, Udzungwa Scarp Forest Reserve, Udzungwa Mountains, Iringa Region, south eastern Tanzania (08° 23′ 44.9″ S, 35° 58′ 55.4″ E)".

**Distribution:** Known only from the type locality (MkalaziValley, Udzungwa Scarp Forest Reserve, UdzungwaMountains, Iringa Region, southeastern Tanzania).

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 111-112, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 197. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 144–145, provided a brief account and photograph.

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***Nectophrynoides pseudotornieri* Menegon, Salvidio, and Loader, 2004**

- Nectophrynoides pseudotornieriMenegon, Salvidio, and Loader, 2004, Tropical Zool., 17: 104. Holotype: BMNH 2000.229, by original designation. Type locality: "Uluguru North Forest Reserve, at 1080 m, Uluguru Mountains, Morogoro Region, eastern Tanzania (06° 52′ 40″ S, 37° 55′ 00″ E)".

**Distribution:** Submontane forest in the UluguruMountains, Morogoro Region, eastern Tanzania, 1080–1345 m elevation.

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 112, and Pickersgill, 2007, Frog Search: 557, provided accounts. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 197. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 146–147, provided a brief account.

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***Nectophrynoides tornieri* (Roux, 1906)**

- *Nectophryne tornieri*Roux, 1906, Proc. Zool. Soc. London, 1906: 63. Syntypes: BMNH (1 specimen) and NHMB (1 specimen), by original designation. NHMB 2384, considered holotype, a lectotype designation by implication, by A.G.C. Grandison IN Frost, 1985, Amph. Species World: 70. Type locality: "Ukami, [UluguruMountains,] German East Africa [= Tanzania]".
- *Nectophrynoides tornieri* — Barbour and Loveridge, 1928, Mem. Mus. Comp. Zool., 50: 188. Perret, 1971, Ann. Fac. Sci. Cameroun, 6: 100.

**Distribution:** East Usambaras through to the Udzungwas between about 1500 m and 500 m in forest to forest margins, Tanzania.

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 113–114, provided an account. Loader, Poynton, and Mariaux, 2004, Afr. Zool., 39: 71-76, provided a record for MahengaMountain in Tanzania and detailed the range. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 148–149, provided a brief account and photograph.

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***Nectophrynoides vestergaardi* Menegon, Salvidio, and Loader, 2004**

- *Nectophrynoides vestergaardi*Menegon, Salvidio, and Loader, 2004, Tropical Zool., 17: 99. Holotype: BMNH 1982.509, by original designation. Type locality: "Shume Magamba Forest

Reserve, at 1800 m above sea level, West Usambara Mountains, Tanga Region, north eastern Tanzania (4° 66′ S, 38° 25′ E)".

**Distribution:** Montane forest of the West Usambara Mountains, 1230–1750 m elevation, Tanga Region, northeastern Tanzania.

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 114, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 198. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 150–151, provided a brief account and photograph.

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***Nectophrynoides viviparus* (Tornier, 1905)**

- *Pseudophryne vivipara*Tornier, 1905, Sitzungsber. Preuss. Akad. Wiss. Berlin, 39: 855. Syntypes: ZMB (lost?) and (according to museum records) BMNH 1935.2.8.4; MHNG 1221.55 designated neotype in error by Perret, 1972, Ann. Fac. Sci. Cameroun, 11: 112, who apparently did not realize that a syntype survived in the BMNH according to implication of Poynton, 1996, Bull. Zool. Nomencl., 53: 229. Loader, Poynton, Davenport, and Rödel, 2009, Zootaxa, 2304: 41-50, identified the original type series as ZMB 21775, 71524-25 (Kratersee des Nyisvulkans), 25419, 3400, 71531-34, 71187-95 (Rungwe), 25261, 71529-30, 25312, 25268, 71535-37 (südliches Deutsch Ost-Afrika), and BMNH 1947.2.1945 (südliches Deutsch Ost-Afrika). ZMB 21775 designated lectotype by Loader, Poynton, Davenport, and Rödel, 2009, Zootaxa, 2304: 42. Type localities: "Daressalam; . . . Rungwe und im Kingagebirge", Tanzania; invalid neotype not selected from original type locality but "Morogoro, Mt Uluguru, Tanzanie". Lectotype from "Kratersee des Nyisvulkans", Tanzania.
- *Nectophryne werthi*Nieden, 1911 "1910", Sitzungsber. Ges. Naturforsch. Freunde Berlin, 1910: 439. Syntypes: ZMB (7 specimens), by original designation. Given as ZMB 21784 and 71528 by Loader, Poynton, Davenport, and Rödel, 2009, Zootaxa, 2304: 42. Type locality: "Dar es Salaam", Tanzania. Synonymy by Perret, 1972, Ann. Fac. Sci. Cameroun, 11: 93-119.
- *Tornierobates vivipara* — Miranda-Ribeiro, 1926, Arq. Mus. Nac., Rio de Janeiro, 27: 19.
- *Nectophrynoides vivipara* — Noble, 1926, Am. Mus. Novit., 212: 15. Barbour and Loveridge, 1928, Mem. Mus. Comp. Zool., 50: 191.
- *Nectophrynoides viviparus* — Perret, 1971, Ann. Fac. Sci. Cameroun, 6: 99.

**Distribution:** Mountains of central to southwestern Tanzania, 1350–2800 m elevation.

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 115-116, and Pickersgill, 2007, Frog Search: 556, provided accounts. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 198. Loader, Poynton, Davenport, and Rödel, 2009, Zootaxa, 2304: 41-50, discussed the type series and redescribed the lectotype. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 152–153, provided a brief account and photograph.

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***Nectophrynoides wendyae* Clarke, 1988**

- Nectophrynoides wendyaeClarke, 1988, Tropical Zool., 1: 171. Holotype: BMNH 1986.565, by original designation. Type locality: "Uzungwe Scarp Reserve, 1650 m, Iringa Region, Uzungwe Mountains, Tanzania".
- Nectophrynoides wendyi — Graybeal and Cannatella, 1995, Herpetologica, 51: 123. Incorrect subsequent spelling.

**Distribution:** Known only from the vicinity type locality (Uszungwa Scarp Reserve, Udzungwa Mountains, Tanzania, 1500–1650 m elevation).

**Comment:** Channing and Howell, 2006, Amph. E. Afr.: 116-117, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart,

Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 198. Harper, Measey, Patrick, Menegon, and Vonesh, 2010, Field Guide Amph. E. Arc Mts. Tanzania and Kenya: 154–155, provided a brief account and photograph.

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## Genus: *Nimbaphrynoides* Dubois, 1987

***Nimbaphrynoides occidentalis* (Angel, 1943)**

- *Nectophrynoides occidentalis*Angel, 1943, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 2, 15: 167. Holotype: MNHNP 44149, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 16. Type locality: "Serengbara (forêt primaire) près du Mont Nimba", Guinea.
- *Nectophrynoides liberiensis*Xavier, 1979 "1978", Bull. Soc. Zool. France, 103: 432. Holotype: MNHNP 1978.3088, by original designation. Type locality: "au plateau de la mine à 1290 m d'altitude, Monts Nimba, Liberia"; type locality now destroyed by mining activities according to Sandberger, Hillers, Doumbia, Loua, Brede, and Rödel, 2010, Zootaxa, 2355: 56-68, who made the synonymy.
- *Nimbaphrynoides liberiensis*— Dubois, 1987 "1986", Alytes, 5: 27.
- *Nimbaphrynoides occidentalis*— Dubois, 1987 "1986", Alytes, 5: 27.
- *Nectophrynoides occidentalis occidentalis* — Sandberger, Hillers, Doumbia, Loua, Brede, and Rödel, 2010, Zootaxa, 2355: 56.
- *Nectophrynoides occidentalis liberiensis* — Sandberger, Hillers, Doumbia, Loua, Brede, and Rödel, 2010, Zootaxa, 2355: 56.

**Distribution:** MountNimba region of Liberia, Ivory Coast, and Guinea.

**Comment:** See brief comments by Rödel, Bangoura, and Böhme, 2004, Herpetozoa, 17: 103-105, regarding range and natural history. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 198-199 (as *Nimaphrynoides liberiensis* and *Nimbaphrynoides occidentalis*). Sandberger, Hillers, Doumbia, Loua, Brede, and Rödel, 2010, Zootaxa, 2355: 56-68, discussed geographic variation in the Mont Nimba region

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# CALYPTOCEPHALELLIDAE

## Genus: *Calyptocephalella*Strand, 1928

***Calyptocephalella gayi* (Duméril and Bibron, 1841)**

- *Lacerta caudiverbera*Linnaeus, 1758, Syst. Nat., Ed. 10, 1: 200. Types: Animal figured by Feuillée, 1714, J. Observ. Phys. Math. Botan. Am. Merid., 1: 319 (a gecko according to Kitchell and Dundee, 1994, Smithson. Herpetol. Inform. Serv., 100: 35; a composite, fictitious animal according to Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256), and animal figured by Seba, 1734, Locuplet. Rer. Nat. Thesaur. Descript. Icon. Exp. Univ. Phys. Hist., 2: pl. 62, fig. 9, as stated by Linnaeus, although this is a fictitious citation. Type locality: "Peru". Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256, discussed why they regard this name to be based on a fictitous animal and therefore unavailable.
- *Caudiverbera peruviana*Laurenti, 1768, Spec. Med. Exhib. Synops. Rept.: 43. Types: Animal figured by Feuillée, 1714, J. Observ. Phys. Math. Botan. Am. Merid., 1: 319 (one of the syntypes of *Lacerta caudiverbera* Linnaeus, 1758; a gecko according to Kitchell and Dundee, 1994, Smithson. Herpetol. Inform. Serv., 100: 35; a composite, fictitious animal according to Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256). Type locality: Peru; in error. Synonymy with *Lacerta caudiverbera* by Duméril and Bibron, 1836, Erp. Gen., 3: 386; Donoso-Barros and Cei, 1962, Herpetologica, 18: 198; Lavilla, 1994 "1992", Acta Zool. Lilloana, 42: 82. Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256, discussed why they considered this name to be based on a fictitious animal and therefore unavailable.

- *Gecko cristatus*Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: 167. Types: MNHNP, but not recorded as being there now. Type locality: ". . . Amérique, au Chili". Synonymy by Duméril and Bibron, 1836, Erp. Gen., 3: 386; Donoso-Barros and Cei, 1962, Herpetologica, 18: 198-199. Note on the type locality from E.O. Lavilla (pers. comm.): Daudin includes in the synonymy of this species at last two taxa: the *Salamandra aquatique et noir* of Feuillée, 1714, J. Observ. Phys. Math. Botan. Am. Merid., 1 (type locality: "A la distance environ d'une lieue de la ville de Conception, Chile, au pied d'une montagne"), and the *salamandra aquatica* of Seba (on the type locality, Daudin says: "Cet auteur [Seba] croit que le gecko a queue crêtée habite en Arabie, Egypte et en Ethiopie"). Concludes (p. 175) "... cet animal n'habite pas en Afrique, mais en Amerique, au Chili". Not mentioned by Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256, but a *nomen oblitum*, and likely not based on the same species as *Calyptocephalus gayi* Duméril and Bibron, 1841.
- *Geckocaudiverbera* — Merrem, 1820, Tent. Syst. Amph.: 40.
- *Ptyodactylusfeullaei*Duméril and Bibron, 1836, Erp. Gen., 3: 386. Types: Not designated. Type locality: "Chili .... à peu de distance de la ville de la Conception". Named as a synonym of *Lacerta caudiverbera* Linnaeus, 1758. Synonymy with *Lacerta caudiverbera* Linnaeus, 1758, by Donoso-Barros and Cei, 1962, Herpetologica, 18: 198-199; Lavilla, 1994 "1992", Acta Zool. Lilloana, 42: 82.
- *Peltocephalusquoyi*Tschudi, 1838, Classif. Batr.: 41, 81. Syntypes: Including MNHNP 0.4533 ("Chili", also a syntype of *Calyptocephalus gayi*) according to museum records. Type locality: "Innern Chili". Synonymy with *Calyptocephallus gayi* by Duméril and Bibron, 1841, Erp. Gen., 8: 450; Guichenot, 1848, *in* Gay (ed.), Hist. Fis. Polit. Chile, Zool., 2: 109; Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 21; Steindachner, 1867, Reise Österreichischen Fregatte Novara, Zool., Amph.: 15. Tentatively accepted by Donoso-Barros and Cei, 1962, Herpetologica, 18: 198-199. *Nomen oblitum*.
- *Calyptocephalusgayi*Duméril and Bibron, 1841, Erp. Gen., 8: 450. Syntypes: MNHNP by original designation; including MNHNP 0.4533 ("Chili", also a type of *Peltocephalus quoyi*) and MNHNP 0.4532 ("Talcahuano"), by museum records. Type locality: "Chili". Name proposed as a synonym of *Peltocephalus quoyi*. Synonymy with *Lacerta caudiverbera* by Myers, 1962, Copeia, 1962: 195, but this synonymy rejected by Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 256.
- *Oiacurus feuillae* — Fitzinger, 1843, Syst. Rept.: 97.
- *Uroplatus caudiverbera* — Boulenger, 1885, Cat. Lizards Coll. Brit. Mus., 1: 236. Based on misidentifications.
- *Calyptocephalusater*Philippi, 1902, Supl. Batr. Chil. Descr. Hist. Fis. Polit. Chile: 151. Syntypes: MNHNC according to the original publication. Type locality: "provincia Valdivia", Chile. Regarded as a *nomen dubium* by Nieden, 1923, Das Tierreich, 46: 373. Synonymy (with *Calyptocephalella gayi*) by Cei, 1958, Invest. Zool. Chilen., 4: 275. Synonymy by Donoso-Barros and Cei, 1962, Herpetologica, 18: 198-199.
- *Calyptocephalus rufus*Philippi, 1902, Supl. Batr. Chil. Descr. Hist. Fis. Polit. Chile: 152. Types: MNHNC according to the original publication. Type locality: "provincia de Santiago", Chile. Regarded as a *nomen dubium* by Nieden, 1923, Das Tierreich, 46: 373. Synonymy (with *Calyptocephalella gayi*) by Cei, 1958, Invest. Zool. Chilen., 4: 275. Synonymy by Donoso-Barros and Cei, 1962, Herpetologica, 18: 198-199.
- *Calyptocephalus coxi*Philippi, 1902, Supl. Batr. Chil. Descr. Hist. Fis. Polit. Chile: 153. Syntypes: MNHNC according to the original publication. Type locality: "hacienda de Mansel", Chile. Regarded as a *nomen dubium* by Nieden, 1923, Das Tierreich, 46: 373. Synonymy (with *Calyptocephalella gayi*) by Cei, 1958, Invest. Zool. Chilen., 4: 275. Provisional synonymy by Gorham, 1966, Das Tierreich, 85: 35.
- *Calyptocephala gayi* — Nieden, 1923, Das Tierreich, 46: 373.
- *Calyptocephalella gayi* — Strand, 1928, Arch. Naturgesch., Abt. A,, 92: 55, by implication.
- *Calyptocephalella canqueli*Schaeffer, 1949, Bull. Am. Mus. Nat. Hist., 93: 50. Holotype: AMNH 3429 (fossil), by original designation. Type locality: Scarritt Pocket [Rinconada de los López], western margin of the Meseta de Canquel, Chubut, Argentina. Synonymy by Lynch, 1971, Misc. Publ. Mus. Nat. Hist. Univ. Kansas, 53: ;Lavilla, 1994 "1992", Acta Zool. Lilloana, 42: 81. Regarded by Sanchíz, 1998, Handb. Palaeoherpetol., 4: 68-69, to be valid and distinct.
- *Gigantobatrachus parodii*Casamiquela, 1958, Rev. Asoc. Geol. Argentina, 13: 174. Holotype: MLP 59-VII-30-1 (fossil). Type locality: Laguna Blanca, Chubut, Argentina [Miocene]. Synonymy by Báez and Brandoni de Gasparini, 1977, Acta Geol. Lilloana, 14: 149-232. Regarded by Sanchíz, 1998, Handb. Palaeoherpetol., 4: 68-69, to be valid and distinct.
- Caudiverbera caudiverbera — Myers, 1962, Copeia, 1962: 195-202. Veloso, 1978 "1977", Herpetologica, 34: 434.

- *Calyptocephala caudiverbera* — Donoso-Barros, 1970, Bol. Mus. Nac. Hist. Nat., Santiago, 31: 49-121.
- *Calyptocephalella gayi* — Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256.

**Distribution:** Between 29° (vicinity of Coquimbo) and 42° S lat. (vicinity of Puerto Montt), Chile, 0-500 m elevation.

**Comment:** See Ortiz and Lescure, 1990 "1989", Bull. Mus. Natl. Hist. Nat. Paris, Sect. A, Zool., 11: 118-119, and Myers and Stothers, 2006, Arch. Nat. Hist., London, 33: 255-256. See photograph, map, description of geographic range and habitat, and conservation status (as *Caudiverbera caudiverbera*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 297.

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# CONRAUIDAE

## Genus: *Conraua* Nieden, 1908

### *Conraua goliath* (Boulenger, 1906)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Rana goliath*Boulenger, 1906, Ann. Mag. Nat. Hist., Ser. 7, 17: 317. Type(s): BMNH. Type locality: "Efulen", South Cameroon.
- *Gigantorana goliath* — Noble, 1931, Biol. Amph.: 519.
- *Paleorana goliath* — Scortecci, 1931, Atti Soc. Ital. Sci. Nat. Mus. Civ. Stor. Nat. Milano, 70: 17.
- *Rana (Conraua) goliath* — Parker, 1936, Proc. Zool. Soc. London, 1936: 138.
- *Conraua goliath* — Lamotte, Perret, and Dzieduszycka, 1959, Bull. Inst. Franç. Afr. Noire, Ser. A, 21: 762. Perret, 1960, Bull. Soc. Neuchatel. Sci. Nat., 83: 95.

**Distribution:** Southwestern Cameroon (region of Nkongsamba) and south to Monte Alen in mainland Equatorial Guinea, below 1000 m elevation.

**Comment:** See Perret, 1957, Bull. Soc. Neuchatel. Sci. Nat., 80: 195-202; and Perret, 1966, Zool. Jahrb., Jena, Abt. Syst., 93: 335-336. De la Riva, 1994, Rev. Esp. Herpetol., 8: 132, provided a record for Equatorial Guinea. Lasso, Rial, Castroviejo, and De la Riva, 2002, Graellsia, 58: 21-34, provided notes on ecological distribution in Equatorial Guinea. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 478. Channing, Rödel, and Channing, 2012, Tadpoles of Africa: 262–263, provided information on comparative larval morphology.

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# DENDROBATIDAE

## Genus: *Adelphobates* Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006

### *Adelphobates castaneoticus* (Caldwell and Myers, 1990)

- *Dendrobates castaneoticus*Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1. Holotype: MZUSP 64775, by original designation. Type locality: "primary lowland forest near Cachoeira Juruá, Rio Xingu, State of Pará, Brazil....appoximately 03°22′S, 51°51′W ... within a loop of the Rio Xingu, about 220 km S of its junction with the Rio Amazonas".
- *Adelphobates castaneoticus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Known only from several localities in the region of the type locality and from Taperinha, nearly 300 km to the northwest of the type locality (Pará, Brazil); also reported more than 500 km to the southwest of the type locality at Novo Progresso, also in Pará.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 518-520, provided an account. Lima and Gallati, 2011, Herpetol. Notes, 4: 93-94, provided a record in Pará, Brazil, and discussed the range. Camera and Krinski, 2014, Check List, 10: 244-245, provided an additional record for Pará, Brazil.

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***Adelphobates galactonotus* (Steindachner, 1864)**

- Dendrobates galactonotusSteindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 260. Holotype: NHMW 19189, according to Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 44. Type locality: "Rio do Muría bei Sitio do S'Pedro Gurção, nördlich von Vigia zur F. reguezia [= Freguenzia]", Pará, Brazil. Name attributed by Steindachner to Fitzinger, but clearly Steindachner is responsible for the description.
- Dendrobates paraensisBoulenger, 1913, Proc. Zool. Soc. London, 1913: 1028-29. Syntypes: BMNH (8 specimens), by original designation. Type locality: "Para", Brazil. Bokermann, 1966, Lista Anot. Local. Tipo Anf. Brasil.: 34, suggested the the type locality as "provàlvelmente Belém". Synonymy by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 27.
- *Adelphobates galactonotus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution**
Lowland forests of southern tributaries of the Amazon, from the Rio Tapajós east to the mouth of the Amazon, Brazil.

**Comment**
See account by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 44-45. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 521-526, provided an account. Hoogmoed and Avila-Pires, 2012, Phyllomedusa, 11: 95-115, reported on color polymorphism (as *Dendrobates galactonotus*).

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***Adelphobates quinquevittatus* (Steindachner, 1864)**

- *Dendrobates quinquevittatus*Jan, 1857, Cenni Mus. Civ. Milano: 53. Type(s): MSNM. Type locality: Not stated. *Nomen nudum* attributed to Fitzinger and Tschudi, presumably on the basis of label names.
- *Dendrobates tinctorius* var. quinquevittatusSteindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 260. Holotype: NHMW 16517, according to Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 1-55. Type locality: "Salto do Girao" (= Salto do Jirau), Rondônia, Brazil.
- *Dendrobates quinquevittatus* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Ranitomeya quinquevittata* — Anonymous, 1985, Ripa, Netherlands, April: 2, by implication.
- *Ranitomeya quinquevittata* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Adelphobates quinquevittatus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Southern Amazonia, in the Rio Madeira drainage of western Brazil; known definitely only from Rondônia and in adjacent Amazonas; also found in neighboring Departamento Pando in Bolivia.

**Comment:** Account available in Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1-21. Most records of this species before 1990 refer to *Adelphobates ventrimaculatus*; see Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1-21. See also Martins and Haddad, 1990, Mem. Inst. Butantan, São Paulo, 52: 53-56, for discussion of identity. De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 57, and Köhler, 2000, Bonn. Zool. Monogr., 48: 69, considered this species possibly to

occur in Bolivia. Schulte, 1999, Pfeilgiftfrösche: 76-80, provided an account and a record for Peru, which was doubted by Lötters and Vences, 2001 "2000", Salamandra, 36: 247-260. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 527-529, provided an account.

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## Genus: *Ameerega* Bauer, 1986

### *Ameerega altamazonica* Twomey and Brown, 2008

- Ameerega altamazonicaTwomey and Brown, 2008, Zootaxa, 1757: 52. Holotype: MUSM 26937, by original designation. Type locality: Departamento San Martín, Perú, 3.5 km N of Tarapoto, Río Shilcayo drainage, 401 m elevation, 6° 27′ 44″ S, 76° 21′ 6″ W".

**Distribution:** Throughout the east-Andean versant and surrounding lowlands of central Peru at elevations of 150-865 m.

**Comment:** The sister taxon of *Ameerega rubriventris* according to the original publication. See comment under *Ameerega hahneli*.

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### *Ameerega andina* (Myers and Burrowes, 1987)

- *Epipedobatesandinus*Myers and Burrowes, 1987, Am. Mus. Novit., 2899: 2. Holotype: IND-AN 1556, by original designation. Type locality: "in montane forest at 1780 m elev., in the Reserva Natural La Planada (approx. 1° 10′ N, 78° 00′ W), Municipio de Ricuarte, Departament of Nariño, Colombia." See comment.
- *Dendrobates andinus* — Myers and Burrowes, 1987, Am. Mus. Novit., 2899: 2. Alternative combination.
- *Paruwrobates andinus* — Bauer, 1994, Ripa, Netherlands, Fall: 3.
- *Ameeregaandina* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Western slope of the Western Andes, Nariño, Colombia, 1700-2020 m elevation.

**Comment:** Most closely related to *Ameerega erythromos* (as *Epipedobates*) according to the original publication. Although named as *Dendrobates andinus* in the description, in a note added in proof, the name was changed to *Epipedobates andinus*. Inasmuch as page priority does not exist, the first use of the name must be taken as *Epipedobates andinus*. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 388-389, provided an account.

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### *Ameerega bassleri* (Melin, 1941)

- *Dendrobates basslerii*Melin, 1941, Göteborgs K. Vetensk. Vitterh. Samh. Handl., Ser. B, 1: 65. Holotype: NHMG 511, according to XXX. Type locality: "Roque, [San Martín,] Peru [1097 m]".
- *Phyllobates bassleri* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobatesbassleri* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Ameeregabassleri* — Bauer, 1986, Ripa, Netherlands, November: 7.
- *Epipedobates bassleri* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phobobates bassleri* — Zimmermann and Zimmermann, 1988, Salamandra, 24: 125-160.
- *Ameerega bassleri* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Amazon drainage of Peru in the departments of Huánuco and San Martín, from the eastern foothills of the Andes east to the Río Huallaga, 274-1097 m elevation.

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 180-186, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 372-376, provided an account and placed this species in their *Ameerega trivittata* group. See statement of geographic range, habitat, and conservation status (as *Epipedobates bassleri*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Ameerega berohoka* Vaz-Silva and Maciel, 2011**

- *Ameerega berohoka*Vaz-Silva and Maciel, 2011, Zootaxa, 2826: 58. Holotype: MNRJ 67263, by original designation. Type locality: "Brazil, State of Goiás, ArenópolisMunicipality (16° 26′ 41″ S, 51° 23′ 37″ W, 416 m above sea level)".

**Distribution:** Western and southwestern parts of the state of Goiás, in the drainage of the Araguaia River, and Barra do Garças, Mato Grosso, Brazil.
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**Comment:** Andrade, Haga, Martins, and Giaretta, 2014, Zootaxa, 3838: 392–396, reported on the advertisement call.

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***Ameerega bilinguis* (Jungfer, 1989)**

- *Epipedobates bilinguis*Jungfer, 1989, Salamandra, 25: 86. Holotype: ZFMK 49073, by original designation. Type locality: "Ecuador: Napo: 10 km N Puerto Francisco de Orellana (= Coca)".
- *Ameerega bilinguis* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** River systems of the Río Napo and Río Aguarico in northeastern Ecuador (provinces of Napo, Orellana, and Sucumbíos) and adjacent Colombia (departments of Putumayo and Caquetá).

**Comment:** The species had previously been confused with *Ameerega parvula* (as *Epipedobates*) according to the original publication. See comment under *Ameerega ingeri*. See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 323-325, who placed this in their *Ameerega picta* group. Poelman, Verkade, and van Wijngaarden, 2010, J. Herpetol., 44: 409-417, reported on larval morphology.

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***Ameerega boehmei* Lötters, Schmitz, Reichle, Rödder, and Quennet, 2009**

- *Ameerega boehmei*Lötters, Schmitz, Reichle, Rödder, and Quennet, 2009, Zootaxa, 2028: 22. Holotype: NKA 8469, by original designaiton. Type locality: "Serranía de Santiago, roughly 6 km east of Santiago de Chiquitos (1819′ S, 5934′ W, ca. 800 m above sea level), Chiquitanía region, Provincia San Jos de Chiquitos, Departamento Santa Cruz, Bolivia".

**Distribution:** Serranías de Santiago and Chochis, isolated Precambrian sandstone massifs in the Chiquitanía region of Departamento Santa Cruz, Bolivia, 720-800 m elevation.

**Comment:** Most closely related to *Ameerega flavopicta* according to the original publication.

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***Ameerega boliviana* (Boulenger, 1902)**

- *Prostherapis bolivianus*Boulenger, 1902, Ann. Mag. Nat. Hist., Ser. 7, 10: 397. Syntypes: BMNH 1947.2.13.89-90 (San Carlos), 1947.2.13.91 (San Ernesto); BM 1947.2.13.89 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 35. Type locality: "San Carlos, [La Paz,] Bolivia, 1200 m. and . . . S. Ernesto, [La Paz,] Bolivia, 800 m."; restricted to San Carlos, La Paz, Bolivia, by lectotype designation.
- *Phyllobates bolivianus* — Barbour and Noble, 1920, Bull. Mus. Comp. Zool., 63: 401; Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 5.
- Colostethus bolivianus — Edwards, 1971, Proc. Biol. Soc. Washington, 84: 148; Rivero, 1990 "1988", Mem. Soc. Cienc. Nat. La Salle, 48: 3-32.
- *Dendrobates bolivianus* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates bolivianus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega boliviana* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Yungas region in the Departamento La Paz, Bolivia, 800-1200 m elevation.

**Comment:** See accounts by Gonzales-Álvarez, Lötters, and Reichle, 2000 "1999", Herpetozoa, 12: 179-186; and Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 326-328, who placed this in their *Ameerega picta* group. See Köhler, John, and Böhme, 2006, Salamandra, 42: 21–27, for natural history notes (as *Epipedobates bolivianus*).

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***Ameerega braccata* (Steindachner, 1864)**

- *Dendrobates braccatus*Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 259. Syntypes: NHMW 3818.1-2; NHMW 3818.1 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 42. Type locality: São Vicente, Mato Grosso, Brazil. Given as "Chapada dos Guimarães (= Chapada), Mato Grosso", Brazil, by Bokermann, 1966, Lista Anot. Local. Tipo Anf. Brasil.: 33. Name attributed by Steindachner to Fitzinger, but clearly Steindachner is responsible for the description.
- *Dendrobates braccatus*Cope, 1887, Proc. Am. Philos. Soc., 24: 53-54. Holotype: ANSP 13414, according to XXX. Type locality: "at or near . . . . Chupada [= Chapada dos Guimarães], thirty miles north-east of Cuyabá, and near the headwaters of the Xingu, an important tributary of the Amazon", Mato Grosso, Brazil. Synonymy by Haddad and Martins, 1994, Herpetologica, 50: 282-295. Junior synonym and homonym of *Dendrobates braccatus* Steindachner, 1864.
- *Dendrobates pictus braccatus* — Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 601.
- *Epipedobates braccatus* — Martins and Sazima, 1989, Ciencia Hoje, 9: 34.
- *Ameerega braccata* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known only from the type locality (Chapada dos Guimarães, Mato Grosso), from two nearby localities (Barra do Bugres and Cáceres, Mato Grosso), from Aquidauana, Mato Gross do Sul, and from Santa Rita do Araguaia, Goias, Brazil, possibly into adjacent Paraguay and Bolivia (see comment).

**Comment:** See accounts by Haddad and Martins, 1994, Herpetologica, 50: 282-295; and Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 329-330 (who placed this in their *Ameerega picta* group). De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 58, and Köhler, 2000, Bonn. Zool. Monogr., 48: 69, considered this species possibly to occur in Bolivia. Brusquetti and Lavilla, 2006, Cuad. Herpetol., 20: 28, suggested that this species likely occurs in Paraguay. Lötters, Schmitz, Reichle, Rödder, and Quennet, 2009, Zootaxa, 2028: 22, provided a distribution map.

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***Ameerega cainarachi* (Schulte, 1989)**

- Epipedobates cainarachiSchulte, 1989, Bol. Lima, 11: 41. Holotype: R. Schulte Collection 10550, now AMNH 136282, according to DRF. Type locality: "el valle del Alto Río Cainarachi del centro de la Cordillera Oriental a la altura del km 33 de la carretera Tarapoto-Yurimaguas", Departamento San Martín, Peru.
- Epipedobates ardensJungfer, 1989, Salamandra, 25: 89. Holotype: ZFMK 490843, by original designation. Type locality: "Peru: Departamento San Martín: Carratera [sic] Tarapoto-Yurimaguas, km 28, ca. 600 m Meershöhe". Synonymy by Duellman, 1993, Univ. Kansas Mus. Nat. Hist. Spec. Publ., 21: 63.
- Ameerega cainarachi — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Lowlands adjacent to the northern end of the Eastern Andes in Amazonian Peru.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 331-332, provided an account, and placed this in their *Ameerega picta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Epipedobates cainarachi*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 231.

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***Ameerega erythromos* (Vigle and Miyata, 1980)**

- *Dendrobates erythromos*Vigle and Miyata, 1980, Breviora, 459: 2. Holotype: MCZ 96384, by original designation. Type locality: "Centro Científico, Río Palenque, 47 km S of Santo Domingo de los Colorados, Provincia Pichincha, Ecuador, 170 m".
- *Epipedobates erythromos* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phyllobates (Pseudendrobates) erythromos* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Ameerega erythromos* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known from three localities in Pichincha Province, Ecuador (Centro Científico, Río Palenque, 47 km south of Santo Domingo de los Colorados; Bilsa; and 2 km east of El Esfuerzo).

**Comment:** Possibly conspecific with the type of *Colostethus whymperi* (now *Hyloxalus whymperi*) according to Coloma, 1995, Misc. Publ. Mus. Nat. Hist. Univ. Kansas, 87: 55. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 390-391, provided an account. See Vigle, 1987, Herpetol. Rev., 18: 39, for second locality.

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***Ameerega flavopicta* (Lutz, 1925)**

- *Hylaplesia flavopicta*Lutz, 1925, C. R. Mém. Hebd. Séances Soc. Biol. Filial., Paris, 93 (1925, vol. 2): 139. Syntypes: Not stated; by museum records AL-MNRJ 853-854 and USNM 96986, according to XXX; implied lectotype designation by Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 597. Type locality: "Bello Horizonte", Minas Gerais, Brazil.
- *Dendrobates pictus flavopictus* — Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 597.
- *Dendrobates flavopictus* — Cochran, 1955 "1954", Bull. U.S. Natl. Mus., 206: 8.
- *Epipedobates flavopictus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega flavopicta* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green,

and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Southeastern (Minas Gerais, Goiás, north-eastern São Paulo, and Tocantíns), northern (Pará), and northeastern (Maranhão), Brazil.

**Comment:** See account (as *Epipedobates flavopictus*) by Haddad and Martins, 1994, Herpetologica, 50: 282-295, and (as Ameerega flavopicta) by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 333-335, who placed this in their *Ameerega picta* group, and who noted a population of this species, or a closely related one, in Bolivia (now *Ameerega boehmei*). Eterovick and Sazima, 2004, Anf. Serra do Cipó: 37-38, provided a photograph and brief account (as *Epipedobates flavopictus*). Lötters, Schmitz, Reichle, Rödder, and Quennet, 2009, Zootaxa, 2028: 22, provided a distribution map. Martins and Giaretta, 2012, Check List, 8: 502-504, provided the São Paulo, Brazil, record and commented on the range.

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***Ameerega hahneli* (Boulenger, 1884)**

- *Dendrobates hahneli*Boulenger, 1884 "1883", Proc. Zool. Soc. London, 1883: 636. Syntypes: BMNH ("several specimens"); BMNH 1947.2.15.17 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 42. Type locality: "Yurimaguas, HuallagaRiver, [Loreto,] Northern Peru".
- *Dendrobates pictus hahneli* — Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 601.
- *Epipedobates hahneli* — Martins and Sazima, 1989, Ciencia Hoje, 9: 34. Haddad and Martins, 1994, Herpetologica, 50: 282-295.
- *Epipedobates hahneli hahneli* — Schulte, 1999, Pfeilgiftfrösche: 233.
- *Ameerega hahneli* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Amazonian lowlands of Amazonian Peru, Ecuador, Colombia, Bolivia, Brazil, the extreme south of Venezuela, southeastern Guyana, southwestern Surinam, and French Guiana.

**Comment:** See account by Haddad and Martins, 1994, Herpetologica, 50: 282-295, who noted that a similar, apparently unnamed, species occurs in the Amazonian lowlands of Peru, and that the review of *Phyllobates pictus* by Lescure, 1976, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 377: 487-488, is likely based on this species. See Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 42, who regarded this species as a pattern class of *Ameerega picta* (as *Phyllobates*). See De la Riva, Márquez, and Bosch, 1996, J. Nat. Hist., 30: 1413-1420, for Bolivian record and discussion of taxonomic uncertainty regarding this and related species. Köhler and Lötters, 1999, Bonn. Zool. Beitr., 48: 259-273, also note a Bolivian record. Lescure and Marty, 2000, Collect. Patrimoines Nat., Paris, 45: 96-97, provided a brief account and photo. Schulte, 1999, Pfeilgiftfrösche: 227-235, provided an account. Roberts, Brown, von May, Arizabal, Schulte, and Summers, 2006, Mol. Phylogenet. Evol., 41: 149-164, provided DNA sequence data that suggest that nominal *Ameerega hahneli* is polyphyletic. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 336-342, provided an account and placed this species in their *Ameerega picta* group. Twomey and Brown, 2008, Zootaxa, 1757: 1-17, discussed the *Ameerega hahneli* complex and noted that populations on the eastern versant of Peru represented a distinct species, *Ameerega altamazonica*; they also noted other unnamed, but likely distinct species in the complex. See account for Surinam population by Ouboter and Jairam, 2012, Amph. Suriname: 88-90.See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 390-391, for brief account and records for Guyana.

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***Ameerega ignipedis* Brown and Twomey, 2009**

- Ameerega ignipedisBrown and Twomey, 2009, Zootaxa, 2049: 5. Holotype: MUSM 24948, by original designation. Type locality: "Departamento Loreto, Peru, 17.5 km NE Contamana at

the western foot of the Serranía de Contamana, 240 m elevation, 7° 11′ 55.46″ S, 74° 57′ 35.28″ W. Type locality near "El Unión", a campsite located at the confluence of a hot-water and cold-water stream."

**Distribution:** Known only from two localities in the Serranía de Contamana, but probably occurs more widely throughout the foothills of the Serranía de Contamana as well as other parts of the Sierra del Divisor, Departamento Loreto, Peru.

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***Ameerega ingeri* (Cochran and Goin, 1970)**

- *Dendrobates ingeri*Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 16. Holotype: USNM 146846, by original designation. Type locality: "Aserrío, near Río Pescado, Caquetá, Colombia".
- *Phyllobates ingeri* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobates ingeri* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates ingeri* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phyllobates (Pseudendrobates) ingeri* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Ameerega ingeri* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Tropical forest on the eastern slope of the Eastern Andes, in southwestern Caquetá and northern Putumayo, southeastern Colombia, at elevations of 100-400 m.

**Comment:** Amézquita, Rueda-Almonacid, and Rueda-Martínez, 2004, *in* Rueda-Almonacid et al. (eds.), Libro Rojo Anf. Colombia: 346-349, provided an account and map (as *Epipedobates pictus*), and who considered *Ameerega bilinguis* (as *Epipedobates*) to be a synonym, without discussion. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 343, provided an accountand placed this species in their *Ameerega picta* group. See map, description of geographic range and habitat, and conservation status (as *Epipedobates ingeri*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 231.

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***Ameerega labialis* (Cope, 1874)**

- *Dendrobates labialis*Cope, 1874, Proc. Acad. Nat. Sci. Philadelphia, 26: 129. Holotype: Presumably originally in ANSP, not located. Type locality: "Nauta", Loreto, Peru.
- *Hylaplesia labialis* — Knauer, 1878, Naturgesch. Lurche: 112.
- *Epipedobates labialis* — Schulte, 1999, Pfeilgiftfrösche: 219.
- *Ameerega labialis* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known only from the type locality (Nauta, Loreto, Peru).

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 219-220, provided an account (as *Epipedobates labialis*). Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 391, provided a brief accountand suggested this to be a *nomen dubium*, possibly assignable to either *Allobates* or *Ameerega*.

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***Ameerega macero* (Rodriguez and Myers, 1993)**

- *Epipedobates macero*Rodríguez and Myers, 1993, Am. Mus. Novit., 3068: 2. Holotype: MUSM 0726 (formerly MHNJP 2001), by original designation. Type locality: "west side Río Manu across from Cocha Cashu Biological Station, Parque Nacional del Manu, about 380 m elev., Department of Madre de Dios, Peru".
- *Ameerega macero* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known from the departments of Junín, Cuzco, Ucayali, and Madre de Dios, southern Peru, 300–450 m elevation.

**Comment:** See Myers, Rodríguez, and Icochea, 1998, Am. Mus. Novit., 3238: 1-20, for comments on identification and distribution. De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 57, and Köhler, 2000, Bonn. Zool. Monogr., 48: 69, consider this species possibly to occur in Bolivia. Schulte, 1999, Pfeilgiftfrösche: 216-219, provided an account. Medina-Müller, 2007, Herpetol. Rev., 38: 214, reported a range extension to Junín and discussed the range. See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 344-345, who placed this species in their *Ameerega picta* group.

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***Ameerega maculata* (Peters, 1873)**

- *Dendrobates trivittatus* var. *maculata*Peters, 1873, Monatsber. Preuss. Akad. Wiss. Berlin, 1873: 617. Type(s): Not designated. ZMB 7815 is considered holotype by museum records (Bauer, Günther, and Klipfel, 1995, *in* Bauer et al. (eds.), Herpetol. Contr. W.C.H. Peters: 41). Type locality: "Chiriqui", Panama; at the time of the description "Chiriqui" included both Atlantic and Pacific versants of extreme western Panama, according to Myers, 1982, Am. Mus. Novit., 2721: 5.
- *Dendrobates maculatus* — Myers, 1982, Am. Mus. Novit., 2721: 5.
- *Epipedobatesmaculatus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameeregamaculata* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164. Provisional placement.

**Distribution:** Known only from the type locality ("Chiriqui", Panama). See comment in synonymy.

**Comment:** See Myers, 1982, Am. Mus. Novit., 2721: 5-9, for discussion, who removed this taxon from the synonymy of *Dendrobates auratus*, where it had been placed by Dunn, 1931, Occas. Pap. Boston Soc. Nat. Hist., 5: 393. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 392-393, provided an account and discussed the problematic nature of this taxon. Köhler, 2011, Amph. Cent. Am.: 129, provided a comparison with other dendrobatids in Central America and provided a maps and photographs.

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***Ameerega parvula* (Boulenger, 1882)**

- *Dendrobates parvulus*Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 145, pl. 12, fig. 6. Syntypes: BMNH 1947.2.30.89-90; BMNH 1947.2.30.89 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 36. Type locality: "Sarayacu", Pastaza, Ecuador and "Canelos", Pastaza, Ecuador; restricted to Sarayacu, Pastaza, Ecuador, by lectotype designation.
- *Prostherapis festae*Peracca, 1904, Boll. Mus. Zool. Anat. Comp. Univ. Torino, 19 (465): 16. Syntypes: MZUT (3 specimens) according to original description; MZUT An87 (2 specimens) according to Gavetti and Andreone, 1993, Cat. Mus. Reg. Sci. Nat., Torino, 10: 84; location of third syntype unknown. Type locality: "Valle Santiago", eastern Ecuador. See comment regarding type locality by Rivero and Almendáriz, 1992 "1991", Politecnica, Quito, 16: 116-117. Synonymy by Coloma, 1995, Misc. Publ. Mus. Nat. Hist. Univ. Kansas, 87: 57.

- *Phyllobates festae* — Barbour and Noble, 1920, Bull. Mus. Comp. Zool., 63: 401.
- *Colostethus festae* — Edwards, 1971, Proc. Biol. Soc. Washington, 84: 148.
- *Phyllobates parvulus* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobatesparvulus* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobatesparvulus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- Phyllobates (Pseudendrobates) parvulus — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Ameerega parvula* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Upper Amazon Basin in southern Ecuador and northern Peru; southern part of the Eastern Andes on the lower eastern slopes in Amazonia, Colombia, 150-1000 m elevation.

**Comment:** See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 346-348, who placed this species in their *Ameerega picta* group. Poelman, Verkade, and van Wijngaarden, 2010, J. Herpetol., 44: 409-417, reported on larval morphology.

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***Ameerega pepperi* Brown and Twomey, 2009**

- *Ameerega pepperi*Brown and Twomey, 2009, Zootaxa, 2049: 16. Holotype: MUSM26940, by original designation. Type locality: "Provincia Tocache, Departamento San Martín, Peru, 2 km NE of San Francisco, 980 m elevation, 8° 18′ 30.3″ S, 76° 40′ 37.6″ W. Found on the ground near a small waterfall."

**Distribution:** Throughout the upper Huallaga Valley, south of Río Huayabama (near Huicungo) to the southern border of San Martín at elevations from 380 m to approximately 1000 m elevation, Peru.

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***Ameerega peruviridis* Bauer, 1986**

- *Ameerega peruviridis*Bauer, 1986, Ripa, Netherlands, November: 7. Holotype: Not stated or known to exist. Type locality: "in the Ucayali drainage of East Andean Peru".

**Distribution:** Ucayali drainage of eastern Peru.

**Comment:** The name was coined for one of the color variants in *"Epipedobates trivittatus"* (which is likely a composite of several species) which is of uncertain taxonomic status. See Walls, 1994, Jewels of the Rainforest: 283, for a photograph.

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***Ameerega petersi* (Silverstone, 1976)**

- *Phyllobates petersi*Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 37. Holotype: USNM 166763, by original designation. Type locality: "Santa Isabel (a village on the Río Nevati, a tributary of the Río Pichis, Pachitea drainage, 35 km SE Puerto Bermúdez, 80 km ENE Oxapampa...slightly upriver from the village...), Departamento de Pasco, Perú, 458 m".
- *Dendrobates petersi* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates petersi* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phyllobates (Pseudendrobates) petersi* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Ameerega petersi* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green,

and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Rio Jurua basin of Acre, Brazil, and Río Ucayali and Río Huallaga basins of eastern Peru, west to the eastern foothills of the Andes, 274-800 m.

**Comment:** See comment under *Ameerega simulans*. See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 349-352, who placed this species in their *Ameerega picta* group, and who noted that the taxonomic status of the HuallagaBasin population is uncertain and may be a distinct species. Gascon, 1994, Herpetol. Rev., 25: 160, provided the record for Acre, Brazil.

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***Ameerega picta* (Bibron, 1838)**

- *Hylaplesia picta* Bibron *In*Tschudi, 1838, Classif. Batr.: 28. Syntypes: MNHNP 4910 (2 specimens, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 32); male (MNHNP 4910?) designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 42; MNHNP 4910 designated lectotype by Lescure, 1976, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 377: 487. Type locality: "Santa Cruz", Santa Cruz, Bolivia.
- *Dendrobates pictus* — Duméril and Bibron, 1841, Erp. Gen., 8: 656.
- *Dendrobates eucnemis*Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 258. Syntypes: NHMW 19190.1-4; NHMW 19190.3 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 42. Type locality: Rio Mamoré, Rondônia, Brazil. Name attributed by Steindachner to Fitzinger, but clearly Steindachner is responsible for the description. Synonymy by Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 597-607.
- *Dendrobates pictus pictus* — Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 601.
- *Dendrobates pictus eucnemis* — Lutz, 1952, Mem. Oswaldo Cruz, Rio de Janeiro, 50: 607.
- *Dendrobates pictus guayanensis*Heatwole, Solano, and Heatwole, 1965, Acta Biol. Venezuelica, 4: 350. Holotype: MBUCV 3112, by original designation. Type locality: "forest between Rancho Alegre and base of Altiplanicie, on trail to Quebrada Cabeza de Burro, 5 km east of Las Chicharras, 47 km north of Tumeremo. Altiplanicie de Nuria, 100-250 m.", Bolivar, Venezuela.
- *Phyllobates pictus* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobates pictus* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates pictus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega picta* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Widely distributed in the lowlands of the Departamentos Santa Cruz, Cochabamba, Beni, and La Paz, in eastern Bolivia, and Corumbá and Xavantina, Mato Grosso do Sul, in southwestern Brazil; possibly into adjacent Paraguay (see comment); Departmento Ucayali, Peru, also eastern slope of the Cordillera Oriental (south of Macarena), Amazonia, Colombia, 200-2500 m elevation. Apparently isolated population in Bolivar, Venezuela.

**Comment:** Noted to be composed of two or more distinct species, according to Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 19, and Henle, 1992, Bonn. Zool. Beitr., 43: 79-129, although these may correspond to those subsequently resurrected by Haddad and Martins, 1994, Herpetologica, 50: 282-295 (who also provided accounts). De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 30, also note the composite nature of this binominal. See brief account by Köhler, 2000, Bonn. Zool. Monogr., 48: 91-93. See distributional comments by Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 26. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 354-358, provided an account and placed this species in their *Ameerega picta* group. Brusquetti and Lavilla, 2006, Cuad. Herpetol., 20: 28, suggested that this species likely occurs in Paraguay.

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***Ameerega planipaleae* (Morales and Velazco, 1998)**

- *Epipedobates planipaleae*Morales and Velazco, 1998, Amphibia-Reptilia, 19: 370. Holotype: MUSM 16542, by original designation. Type locality: "quebrada Llamaquizú; a 6 km del pueblo de Oxapampa; 10° 39′ S, 75° 27′ W aprox.; 2,010 m de altitud; ladera occidental del Parque Nacional Yanachaga-Chemillen; provincia de Oxapampa; Pasco, Perú".
- *Ameerega planipaleae* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Region of the town of Oxapampa, Pasco, Peru, ca. 2010 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 359, provided an account and placed this species in their *Ameerega picta* group. See map, description of geographic range and habitat, and conservation status (as *Epipedobates planipaleae*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 231. Medina-Müller and Chávez, 2008 "2007", Herpetotropicos, Mérida, 4: 64, reported on geographic variation at the type locality.

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***Ameerega pongoensis* (Schulte, 1999)**

- Epipedobates pongoensisSchulte, 1999, Pfeilgiftfrösche: 202. Holotype: R. Schulte Collection BE 24 H, to be deposited in the MUSM, according to the original publication. Type locality: "Pongo de Aguirre, Rio Huallaga-Canyon zwischen Chazuta und Leticia, Region San Martin, Nord-Ost-Peru. Ca. 220 m N.N.".
- Ameerega pongoensis — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known only from the type locality (Pongo de Aguirre, between Chazuta and Leticia, Amazonas, Peru, 220 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 360-361, provided an account and placed this species in their *Ameerega picta* group

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***Ameerega pulchripecta* (Silverstone, 1976)**

- *Phyllobates pulchripectus*Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 43. Holotype: LACM 42297, by original designation. Type locality: "Serra do Navio, Territorio do Amapá, Brasil, about 120 m".
- *Dendrobates pulchripectus* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates pulchripectus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega pulchripecta* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Known only from the type locality in the Guiana region of northern Brazil, near the Rio Amapari (tributary of the Rio Araguari), 100-310 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 362-363, provided an account and placed this species in their *Ameerega picta* group.

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***Ameerega rubriventris* (Lötters, Debold, Henle, Glaw, and Kneller, 1997)**

- *Epipedobates rubriventris*Lötters, Debold, Henle, Glaw, and Kneller, 1997, Herpetofauna, Weinstadt, 19: 26. Holotype: ZFMK 64838, by original designation. Type locality: "Strassenrand der Carretera Central F. Basadre von Tingo María nach Pucallpa, ca. 3 km oberhalb des Ortes Prebisto, Tal des Río Prebisto, Am Osthang der Cordillera Azul, etwa 550 m NN, Departamento Ucayali, Perú".
- *Epipedobates hahneli rubriventris* — Schulte, 1999, Pfeilgiftfrösche: 235. this rejected by Lötters and Vences, 2001 "2000", Salamandra, 36: 247.
- *Ameerega rubriventris* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Eastern versant of the Cordillera Azul, Departamento Ucayali, Peru.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 374-365, provided an account and placed this species in their *Ameerega picta* group.

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***Ameerega silverstonei* (Myers and Daly, 1979)**

- *Dendrobates silverstonei*Myers and Daly, 1979, Am. Mus. Novit., 2674: 2. Holotype: AMNH 91844, by original designation. Type locality: "montane forest of Cordillera Azul, 1330 meters elevation, approximately 30 km airline northeast of Tingo María, Department of Huánuco, Peru. This locality lies alongside the gravel road from Tingo María to Pucallpa, about 5 km by road southwest of the road's crest at 1640 m elevation."
- *Epipedobates silverstonei* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phobobates silverstonei* — Zimmermann and Zimmermann, 1988, Salamandra, 24: 125-160.
- *Phyllobates (Pseudendrobates) silverstonei* — Bauer, 1988, Het Paludarium, Netherlands, November: 2.
- *Ameerega silverstonei* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Cordillera Azul, Huánuco, Peru.

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 186-193, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 377-379, provided an account and placed this species in their *Ameerega trivittata* group.

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***Ameerega simulans* (Myers, Rodriguez, and Icochea, 1998)**

- *Epipedobates simulans*Myers, Rodríguez, and Icochea, 1998, Am. Mus. Novit., 3238: 2. Holotype: MUSM 16996, by original designation. Type locality: "on ridge along Río Távara (trib. Río Tambopata) just below confluence of Río Candamo and Río Huacamayo, about 450 m elev. (13° 31′ S, 69° 41′ W), Depto. Puno, Peru. The type locality is in the Zona Reservada Tambopata-Candamo".
- *Ameerega simulans* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Lower montane Andean forest in the upper Río Madre de Dios watershed, Departamento Puno, Peru.

**Comment:** Confused with *Ameerega petersi* prior to description. De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 57, and Köhler, 2000, Bonn. Zool. Monogr., 48: 69, considered this species possibly to occur in Bolivia. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 366-367, provided an account and placed this species in their *Ameerega picta* group.

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***Ameerega smaragdina* (Silverstone, 1976)**

- *Phyllobates smaragdinus*Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 44. Holotype: LACM 64435, by original designation. Type locality: "Pan de Azúcar, 39 km NNE Oxapampa, 10° 15′ S, 75° 14′ W, in the Iscozazin Valley (the Río Iscozazin is a tributary of the Río Palcazú, in the Pachitea drainage), Departamento de Pasco, Perú, 380 m".
- *Dendrobates smaragdinus* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates smaragdinus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phyllobates (Pseudendrobates) smaragdina* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Ameerega smaragdina* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.

**Distribution:** Region of the type locality (Department of Pasco, Peru).

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 368-369, provided an account and placed this species in their *Ameerega picta* group.

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***Ameerega trivittata* (Spix, 1824)**

- *Hyla trivittata*Spix, 1824, Animal. Nova Spec. Nov. Test. Ran. Brasil.: 35. Syntypes: Not specifically designated, but including animal figured in pl. 9, fig. 1 of the original publication; 6 specimens including ZSM 43/0 (reported found by Hoogmoed, 1986, Zool. Meded., Leiden, 60: 300) and RMNH 1836 according to Hoogmoed and Gruber, 1983, Spixiana, München, Suppl., 9: 367; RMNH 1836 designated lectotype by Hoogmoed and Gruber, 1983, Spixiana, München, Suppl., 9: 367. Type locality: "juxta flumen Teffé" (= Rio Tefé, Brazil).
- *Hyla nigerrima*Spix, 1824, Animal. Nova Spec. Nov. Test. Ran. Brasil.: 36. Syntypes: 5 specimens presumably originally in the ZSM and including animal figured on pl. 9, fig. 2 of the original publication; syntypes in ZSM (now lost) and RMNH (exchanged from ZSM), of which RMNH 1799 designated lectotype by Hoogmoed and Gruber, 1983, Spixiana, München, Suppl., 9: 367. Type locality: "juxta pagum Ecgá" = Ega, Teffe, Brazil. Synonymy by Peters, 1872, Monatsber. Preuss. Akad. Wiss. Berlin, 1872: 213; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 144; Hoogmoed and Gruber, 1983, Spixiana, München, Suppl., 9: 367.
- *Hysaplesia trivittata* — Schlegel, 1826, Bull. Sci. Nat. Geol., Paris, Ser. 2, 9: 239.
- *Hysaplesia nigerrima* — Schlegel, 1826, Bull. Sci. Nat. Geol., Paris, Ser. 2, 9: 239.
- *Dendrobates nigerrima* — Wagler, 1830, Nat. Syst. Amph.: 202.
- *Dendrobates trivittatus* — Wagler, 1830, Nat. Syst. Amph.: 202. Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11; Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Dendrobatesnigerrimus* — Wagler, 1830, Nat. Syst. Amph.: 202.
- *Dendrobates obscurus*Duméril and Bibron, 1841, Erp. Gen., 8: 655. Holotype: MNHNP 4906, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 32. Type locality: unknown. Synonymy by Peters, 1872, Monatsber. Preuss. Akad. Wiss. Berlin, 1872: 212-213; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 144; Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 14; and Hoogmoed and Gruber, 1983, Spixiana, München, Suppl., 9: 367.

- *Hylaplesia trivittatus* — Knauer, 1878, Naturgesch. Lurche: 112.
- *Dendrobates tetravittatus*Miranda-Ribeiro, 1926, Arq. Mus. Nac., Rio de Janeiro, 27: 180. Holotype: MZUSP. Type locality: "Obidos", Pará, Brazil. Synonymy by Bokermann, 1966, Lista Anot. Local. Tipo Anf. Brasil.: 34; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Phyllobates trivittatus* — Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 6.
- *Ameerega trivittata* — Bauer, 1986, Ripa, Netherlands, November: 7.
- *Epipedobates trivittatus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phobobates trivittatus* — Zimmermann and Zimmermann, 1988, Salamandra, 24: 125-160.
- *Ameerega trivittata* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 164.
- *Ameerega trivittata nassaui*Ouboter and Jairam, 2012, Amph. Suriname: 96. Holotype: NZCS A2239, by original designation. Type locality: "Road on Nassau Mt.., NW Plateau, approx. 525 m, eastern Suriname".

**Distribution:** Guyana and Surinam and the Amazon drainage of Brazil, Peru, Bolivia (Pando), Colombia (Putumayo and Amazonia), and Venezuela; presumably in Amazonian Ecuador.

**Comment:** See De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 30, for Bolivian record. See distributional comments regarding Venezuela by Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 26-27 (as *Phobobates trivittatus*). Schulte, 1999, Pfeilgiftfrösche: 169-180, provided an account. Barrio-Amorós and Fuentes-Ramos, 1999, Acta Biol. Venezuelica, 19: 2, reported the species for Venezuela but did not report a precise locality or location of voucher specimen. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 380-386, provided an account and placed this species in their *Ameerega trivittata* group. See account for Surinam population by Ouboter and Jairam, 2012, Amph. Suriname: 92-101.See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 391, for brief account and records for Guyana.

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***Ameerega yoshina* Brown and Twomey, 2009**

- *Ameerega yoshina*Brown and Twomey, 2009, Zootaxa, 2049: 10. Holotype: MUSM24945, by original designation. Type locality: "Departamento Loreto, Peru, 17.5 km NE Contamana at the western foot of the Serranía de Contamana, 310 m elevation, 7° 11′7.43″ S, 74° 57′ 13.12″ W. Found near El Unión, on the ground near a small creek flowing into the coldwater stream."

**Distribution**
Currently known only from a locality in the Serranía de Contamana and the other 130 km away in the HuallagaCanyon in the northern Cordillera Azul , Departamento Loreto, Peru.

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***Ameerega yungicola* (Lötters, Schmitz, and Reichle, 2005)**

- Epipedobates yungicolaLötters, Schmitz, and Reichle, 2005, Herpetozoa, 18: 117. Holotype: CBF 3900, by original designation. Type locality: "km 10 on road from Caranavi to Yolosa (15° 53′ 17″ S, 67° 33′ 09″ W, ca. 600 m above sea level), Yungas de La Paz, Provincia Caranavi, Departamento La Paz, Bolivia".
- Ameerega yungicola — Frost, 2006, Amph. Spec. World, vers. 4.0: 1-268.

**Distribution:** Known only from the type locality (km 10 on road from Caranavi to Yolosa, 15° 53′ 17″ S, 67° 33′ 09″ W, ca. 600 m above sea level, Yungas de La Paz, Provincia Caranavi, Departamento La Paz, Bolivia).

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 370, provided an account and placed this species in their *Ameerega picta* group.

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## Genus: *Andinobates* Twomey, Brown, Amézquita, and Mejía-Vargas, 2011

***Andinobates abditus* (Myers and Daly, 1976)**

- *Dendrobates abditus*Myers and Daly, 1976, Occas. Pap. Mus. Nat. Hist. Univ. Kansas, 59: 1. Holotype: AMNH 89603, by original designation. Type locality: "lower montane rain forest at 1700 meters elevation, south-west of the Río Azuela bridge on the Quito--Lago Agrio road, eastern base of Volcán Reventador, Napo Province, Ecuador (latitude 0° 05′ S, longitude 77° 37′ W)".
- *Minyobates abditus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates abditus* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya abdita* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates abditus* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Known only from the type locality at the base of the Volcán Reventardor, southwest of the Río Azuela bridge on the Quito to Lago Agrio road, Napo, Ecuador, 1700 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 442-444, provided an account and placed this species in their *Ranitomeya minuta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates abditus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 227. In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 35.

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***Andinobates altobueyensis* (Silverstone, 1975)**

- *Dendrobates altobueyensis*Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 27. Holotype: LACM 71972, by original designation. Type locality: "summit marker of Alto del Buey, Departamento del Chocó, Colombia, 1070 m."
- *Minyobates altobueyensis* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates altobueyensis* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya altobueyensis* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates altobueyensis* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

**Distribution:** 985-1070 m elevation on the Alto del Buey, a mountain in the Serranía de Baudó, Chocó, Colombia.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 444, provided an account and placed this species in their *Ranitomeya minuta* group. See map, description of geographic range and habitat, and conservation status (as *Dendrobates altobueyensis*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 228. In the *Andinobates fulguritus* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

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***Andinobates bombetes* (Myers and Daly, 1980)**

- *Dendrobates bombetes*Myers and Daly, 1980, Am. Mus. Novit., 2692: 2. Holotype: AMNH 102601, by original designation. Type locality: "mountains above south side of Lago de Calima, 1580-1600 meters elevation, about 2 km airline southwest of Puente Tierra (village), Department of Valle del Cauca, Colombia. The locality is roughly 50 km north of Cali, on the mountain above kilometer post 23 on the present Loboguerrero--Buga road (about 3° 52′ N, 76° 25′ W)".
- *Minyobates bombetes* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates bombetes* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya bombetes* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates bombetes* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Both slopes of the Cordillera Occidental (Valle del Cauca) and western slope of the Cordillera Central (Quindío and Risaralda), Colombia, 1580-2100 m elevation.

**Comment:** Suárez-Mayorga, 2004, *in* Rueda-Almonacid et al. (eds.), Libro Rojo Anf. Colombia: 302-307, provided an account and map. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 445-446, provided an account and placed this species in their *Ranitomeya minuta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates bombetes*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 228. In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

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***Andinobates cassidyhornae* Amézquita, Márquez, Mejía-Vargas, Kahn, Suárez, and Mazariegos, 2013**

- *Andinobates cassidyhornae* Amézquita, Márquez, Mejía-Vargas, Kahn, Suárez, and Mazariegos, 2013, Zootaxa, 3620: 168. Holotype: ULA A1095, by original designation. Type locality: "Mesenia-Paramillo Nature Reserve, Vereda La Mesenia, about 12 km south of the municipality of Jardín but politically within the Municipality of Andes, (both in Departamento de Antioquia, Colombia), ca 5° 31´ N, 75° 53´ W at 2000 m elevation".

**Distribution:** Known from a few localities in Chocó (Carmen de Atrato), Antioquia (Ciudad Bolívar and the type locality) in Andean Colombia.

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***Andinobates claudiae* (Jungfer, Lötters, and Jörgens, 2000)**

- *Dendrobates mimulus*Burton, 1998, Am. Mus. Novit., 3229: 10. *Nomen nudum*. Synonymy by T. Grant (personal commun.)
- *Dendrobates claudiae*Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 12. Holotype: ZFMK 73561, by original designation. Type locality: "Panamá: Pronvincia Bocas del Toro: Festland westlich der Island Loma partida (82° 11′ W/09° 09′ N".
- *Ranitomeya claudiae* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates claudiae* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

**Distribution:** Known only from the region of the type locality in the province of Bocas del Toro, Panama.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 447-448, provided an account and placed this species in their *Ranitomeya minuta* group. In the *Andinobates minutus* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates, Dendrobates* and *Oophaga* (as Dendrobates) in Central America and provided map and photographs of the species.

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***Andinobates daleswansoni* (Rueda-Almonacid, Rada, Sánchez-Pacheco, Velásquez-Álvarez, and Quevedo-Gil, 2006)**

- *Dendrobates daleswansoni*Rueda-Almonacid, Rada, Sánchez-Pacheco, Velásquez-Álvarez, and Quevedo-Gil, 2006, Zootaxa, 1259: 41. Holotype: ICN 42308, by original designation. Type locality: "Colombia, Departamento de Caldas, Municipio de Samaná, Coregimiento de Florencia, Parque Nacional Natural Selva de Florencia, sitio 'El Estadero', 1950 m, on the eastern lfank of the cordillera Central, *ca* 5° 30′ North, 75° 5′ West.
- *Ranitomeya daleswansoni* — Frost, 2007, Amph. Spec. World, vers. 5.0: . new combination by implication of results of Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299:.
- *Andinobates daleswansoni* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Cloud forests in the northern Cordillera Central of Colombia, 1800-2000 m elevation, in the Municipio Samaná, Departamento de Caldas.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 627, provided an account (as *"Dendrobates" daleswansoni*). In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

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***Andinobates dorisswansonae* (Rueda-Almonacid, Rada, Sánchez-Pacheco, Velásquez-Álvarez, and Quevedo-Gil, 2006)**

- *Dendrobates dorisswansoni*Rueda-Almonacid, Rada, Sánchez-Pacheco, Velásquez-Álvarez, and Quevedo-Gil, 2006, Zootaxa, 1259: 48. Holotype: ICN 53279, by original designation. Type locality: "Colombia, Departamento de Tolima, Municipio de Falan, unpaved road between vereda El Llano and the 'Fina la Lulera,' eastern flank of the Cordillera Central, 1780 m, *ca* 5° 08′ North, 74° 56′ West".
- *Ranitomeya dorisswansoni* — Frost, 2007, Amph. Spec. World, vers. 5.0: . new combination by implication of revision of Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299 (Mandatory change in ending (International Code of Zoological Nomenclature, 1999, Art. 32.5.1.); Bernal-Bautista, Luna-Mora, Gallego, and Quevedo-Gil, 2007, Zootaxa, 1638: 59.
- *Andinobates dorisswansoni* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Cloud forests in the northern Cordillera Central of Departamento Tolima, Colombia.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 627, provided an account (as *"Dendrobates" dorisswansoni*). In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

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***Andinobates fulguritus* (Silverstone, 1975)**

- *Dendrobates fulguritus*Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 28. Holotype: LACM 42319, by original designation. Type locality: "Playa de Oro, Departamento del Chocó, Colombia, 160 m."
- *Minyobates fulguritus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates fulguritus* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11.
- *Ranitomeya fulgurita* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates fulguritus* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

**Distribution:** East-central Panama to northerwestern Colombia (Chocó, Risaralda), 160–800 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 449-451, provided an account and placed this species in their *Ranitomeya minuta* group. In the *Andinobates fulguritus* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as Dendrobates) in Central America and provided a map and photograph of this species.

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***Andinobates geminisae* Batista, Jaramillo, Ponce, and Crawford, 2014**

- *Andinobates geminisae*Batista, Jaramillo, Ponce, and Crawford, 2014, Zootaxa, 3866: 339. Holotype: MVUP 2428, by original designation. Type locality: "the headwaters of the Río Caño, Coclé del Norte, Distrito de Donoso, Colón Province, Panama, . . . at GPS coordinates 8.8536° N, 80.8214° W and 89 m elev."

**Distribution:** Known only from the RíoBelénBasin, Coclé del Norte, Colon Province, Panama.

**Comment:** In the *Andinobates minutus* group according to the original publication.

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***Andinobates minutus* (Shreve, 1935)**

- *Dendrobates minutus minutus*Shreve, 1935, Occas. Pap. Boston Soc. Nat. Hist., 8: 212-213. Holotype: MCZ 15288, by original designation. Type locality: "Barro Colorado Island, PanamaCanal Zone".
- *Dendrobates shrevei*Dunn, 1940, Proc. Acad. Nat. Sci. Philadelphia, 92: 109. Holotype: ANSP 21791, by original designation. Type locality: "Cerro Campaña, Prov. Panama (east of the Canal Zone), 3000 feet elevation". Synonymy by Savage, 1968, Copeia, 1968: 760; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 30.
- *Ranitomeya minuta* — Anonymous, 1985, Ripa, Netherlands, April: 2, by implication.
- *Minyobates minutus* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates minutus* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11.
- *Ranitomeya minuta* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates minutus* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

**Distribution:** Central Panama to midway down the Pacific coast of Colombia, below 1000 m elevation.

**Comment:** See accounts by Savage, 1968, Copeia, 1968: 760-761; and Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 30-31, as *Dendrobates minutus*. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 452-453, provided an account and placed this species in their *Ranitomeya minuta* group. In the *Andinobates minutus* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as *Dendrobates*) in Central America and provided a map and photograph of this species.

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***Andinobates opisthomelas* (Boulenger, 1899)**

- *Dendrobates opisthomelas*Boulenger, 1899, Ann. Mag. Nat. Hist., Ser. 7, 3: 275. Syntypes: BMNH 1947.2.15.21-34; BMNH 1947.2.15.29 designated lectotype by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 32. Type locality: "Santa Inés, N. of Medellin, [Departamento Antioquia,] Republic of Colombia, altitude 3800 feet [1160 m]".
- *Ranitomeya opisthomelas* — Anonymous, 1985, Ripa, Netherlands, April: 2, by implication.
- *Minyobates opisthomelas* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates opisthomelas* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya opisthomelas* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates opisthomelas* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Northern Cordillera Occidental and Central of Colombia (Antioquia) to the eastern slope of the Cordillera Central in Caldas, Colombia, 1160-2200 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 454-457, provided an account and placed this species in their *Ranitomeya minuta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates opithomelas*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 229. In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36. Some records for Antioquia, Colombia, may be assignable to the recently named *Andinobates cassidyhornae*.

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***Andinobates tolimensis* (Bernal-Bautista, Luna-Mora, Gallego, and Quevedo-Gil, 2007)**

- *Ranitomeya tolimense*Bernal-Bautista, Luna-Mora, Gallego, and Quevedo-Gil, 2007, Zootaxa, 1638: 60. Holotype: ICN 53372, by original designation. Type locality: "'near Finca La Lulera', vereda el Llano, Departamento del Tolima, Municipio de Falan, Cordillera Central of Colombia, elevation 1852 m above sea level (5° 01′ 08″ N, 75° 02′ 31″ W)". Incorrect original spelling of species name.
- *Ranitomeya tolimensis*— Frost, 2008, Amph. Spec. World, vers. 5.2: . Correction of gender of species name.
- *Andinobates tolimensis*—Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Known only from the type locality on the eastern slope of the Cordillera Oriental in the Municipio de Falan, Departamento de Tolima, Colombia, 1852 m elevation.

**Comment:** Related to *Ranitomeya abdita*, *Ranitomeya bombetes*, *Ranitomeya opisthomelas*, and *Ranitomeya virolinensis* according to the original publication. In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

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***Andinobates viridis* (Myers and Daly, 1976)**

- *Dendrobatesviridis*Myers and Daly, 1976, Bull. Am. Mus. Nat. Hist., 157: 247. Holotype: AMNH 88133, by original designation. Type locality: "in montane forest approximately 13 km west of Dagua (town), 850-1200 meters elevation on south-facing versant of upper Río Anchicayá drainage, Department of Valle, Colombia".
- *Minyobates viridis* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates viridis* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya viridis* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates viridis* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

**Distribution:** Western slope of the Cordillera Occidental of Colombia (Cauca and Valle del Cauca), 100-1200 m elevation.

**Comment:** See Myers and Daly, 1976, Bull. Am. Mus. Nat. Hist., 157: 249, for speculation on distribution. Restrepo-Toro and Bolívar-García, 2004, *in* Rueda-Almonacid et al. (eds.), Libro Rojo Anf. Colombia: 215-218, provided an account and map. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 458, provided an account and placed this species in their *Ranitomeya minuta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates speciosus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 230. In the *Andinobates fulguritus* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 30.

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***Andinobates virolinensis* (Ruiz-Carranza and Ramírez-Pinilla, 1992)**

- *Minyobates virolinensis*Ruiz-Carranza and Ramírez-Pinilla, 1992, Lozania, 61: 2. Holotype: ICN 16145, by original designation. Type locality: "Colombia, Departamento de Santander, vertiente occidental de la Cordillera Oriental, Municipio de Charalá, Virolín (= Inspección de Policía de Cañaverales), Vereda "El Reloj", 6°13′ latitud N, 73°05′ W de Greenwich, 1750 m de altitud."
- *Dendrobates virolinensis* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.
- *Ranitomeya virolinensis*— Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Andinobates virolinensis* —Twomey, Brown, Amézquita, and Mejía-Vargas *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

**Distribution:** Western slope of the Eastern Andes (Cundinamarca and Santander), Colombia, 1300-1850 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 459-460, provided an account and placed this species in their *Ranitomeya minuta* group. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates virolinensis*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 231. In the *Andinobates bombetes* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 36.

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## Genus: *Dendrobates* Wagler, 1830

***Dendrobates auratus* (Girard, 1855)**

- *Phyllobates auratus*Girard, 1855 "1854", Proc. Acad. Nat. Sci. Philadelphia, 7: 226. Holotype: Not stated; probably USNM 10307 according to Dunn, 1941, Copeia, 1941: 88; stated to be USNM 10307 by Cochran, 1961, Bull. U.S. Natl. Mus., 220: 69. Type locality: "Island of Taboga, in the Bay of Panama".
- *Dendrobates latimaculatus*Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 125. Holotype: BMNH 52.12.11.8, according to Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 40. Type locality: "Isthmus of Darien [Panama]". Tentative synonymy by Taylor, 1952, Univ. Kansas Sci. Bull., 35: 635. Synonymy by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11, 40.
- *Hylaplesia aurata* — Cope, 1863, Proc. Acad. Nat. Sci. Philadelphia, 15: 49.
- *Dendrobates tinctorius* var. *auratus* — Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 261.
- *Dendrobates trivittatus* var. *aurata* — Peters, 1873, Monatsber. Preuss. Akad. Wiss. Berlin, 1873: 618.
- *Dendrobates amoenus*Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 627. Holotype: NHMW 16514 (formerly 1904.111.95) according to Dunn, 1941, Copeia, 1941: 88, and Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 16 (formerly in Zoologisches Museum Königsberg, Germany). Type locality: "Costa Rica". Synonymy by Dunn, 1941, Copeia, 1941: 88; Savage, 1968, Copeia, 1968: 759–760.
- *Dendrobates auratus* — Dunn, 1931, Occas. Pap. Boston Soc. Nat. Hist., 5: 393; Cochran, 1961, Living Amph. World: 107.
- *Hylaplesia tinctoria latimaculata* — Dunn, 1941, Copeia, 1941: 88. Attributed incorrectly to Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 125.
- *Dendrobates tinctorius auratus* — Laurent, 1942, Bull. Mus. R. Hist. Nat. Belg., 18: 12.

**Distribution:** Humid lowlands from southern Nicaragua to the Golfo de Urabá in Colombia on the Caribbean and on the Pacific versant from southwestern Costa Rica through Panama to the lower Atrato River drainage of western Colombia, 0–800 m elevation; introduced in Oahu, Hawaii, USA.

**Comment:** See account by Savage, 1968, Copeia, 1968: 759-760, and Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 40. See account by Savage, 2002, Amph. Rept. Costa Rica: 383-384, Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 531-538, provided an account. See comments by Sunyer, Páiz, Dehling, and Köhler, 2009, Herpetol. Notes, 2: 189-202, regarding Nicaraguan populations. Lannoo and Nanjappa, 2005, *in* Lannoo (ed.), Amph. Declines: 440–441, and Dodd, 2013, Frogs U.S. and Canada, 2: 809–811, provided accounts that summarized the relevant literature for the introduced Hawaii population. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Dendrobates* in Central America and provided a map and photographs of the species. Zug, 2013, Rept. Amph. Pacific Is.: 61–62, provided a brief account of the Hawaiian population and photograph. Altig and McDiarmid, 2015, Handb. Larval Amph. US and Canada: 188–189, provided an account of larval morphology and biology.

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***Dendrobates leucomelas* Steindachner, 1864**

- *Dendrobates leucomelas*Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 260-261. Holotype: NHMW 19188, according to Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 16, and Häupl, Tiedemann, and Grillitsch, 1994, Kat. Wiss. Samml. Naturhist. Mus. Wien, 9: 20. Type locality: "Columbien" (= Colombia).

**Distribution:** Guianan Orinoco drainage of Venezuela north to the Río Orinoco, east into Guyana to the EssequiboRiver, south into extreme northern Brazil, and west into eastern Amazonian Colombia.

**Comment:** See accounts by Rivero, 1961, Bull. Mus. Comp. Zool., 126: 168-169, Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 26; and Hoogmoed and Gorzula, 1979, Zool. Meded., Leiden, 54: 188-189. See distributional comments by Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 24-25. Barrio-Amorós, 1999 "1998", Acta Biol. Venezuelica, 18: 35-41, discussed

the Venezuelan distribution. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 539-544,provided an account. Doan, Nowacki, and Roberts, 2012, Cat. Am. Amph. Rept., 886: 1-6, provided a detailed account. See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 391-392, for brief account and records for Guyana.

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***Dendrobates nubeculosus* Jungfer and Böhme, 2004**

- Dendrobates nubeculosusJungfer and Böhme, 2004, Salamandra, 40: 100. Holotype: ZFMK 45354, by original designation. Type locality: "Rockstone, Essequibo River, Mazaruni Potaro District, Guyana . . . Rockstone (4° 58′ N, 58° 32′ W), a town on the Essequibo River at 7 m above sea level. The vegetation in the area is lowland tall evergreen flooded riparian forest ....".

**Distribution** Known only from the type locality (Rockstone, 4° 58′ N, 58° 32′ W, EssequiboRiver, Mazruni Potaro District, Guyana).

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 545, provided an account.See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 391, for brief account and records for Guyana.

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***Dendrobates tinctorius* (Cuvier, 1797)**

- *Rana tinctoria*Cuvier, 1797 "An. VI", Tabl. Element. Hist. Nat. Animaux: 295. Type(s): Not designated, although likely orginally in MNHNP. Type locality: "Amérique". Placed on the Official List of Specific Names in Zoology by Anonymous, 2009, Opin. 2223, Bull. Zool. Nomencl., 66: 103-105.
- *Calamita tinctorius*Schneider, 1799, Hist. Amph. Nat.: 175. Type(s): Not designated or known to exist; LACM 43927 designated neotype by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 47. Type locality: "Americae meridionalis"; neotype from "lower Rivière Matarony (Approuague drainage), Bruynzeel lumber camp, French Guiana, 35 m." (see comment).
- *Hyla tinctoria* — Daudin, 1800, Hist. Nat. Quad. Ovip., Livr. 1: 7. Latreille IN Sonnini de Manoncourt and Latreille, 1801 "An. X", Hist. Nat. Rept., 2: 170; Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: 25.
- *Rana tinctoria* — Shaw, 1802, Gen. Zool., 3(1): 135.
- *Calamita tinctorius* — Merrem, 1820, Tent. Syst. Amph.: 169.
- *Hylaplesia tinctoria* —Boie *In*Schlegel, 1826, Bull. Sci. Nat. Geol., Paris, Ser. 2, 9: 239.
- *Dendrobates tinctorius* — Wagler, 1830, Nat. Syst. Amph.: 202. Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 143.
- *Dendrobates tinctorius* var. *daudini*Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 262. Types: Based on animal figured by Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: pl. 8, fig. 1, by original designation. Type locality: Not designated. Synonymy by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobates machadoi*Bokermann, 1958, Neotropica, 4: 73. Holotype: WCAB 3083, by original designation; now in MZUSP. Type locality: "Serra do Navio, Territorio Federal de Amapa, Brasil". Synonymy by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobates azureus*Hoogmoed, 1969, Zool. Meded., Leiden, 44: 134. Holotype: RMNH 13837A, by original designation. Type locality: "Sipaliwini, forest island on western slope Vier Gebroeders Mountain, 2° N 55° 58′ W, Surinam". Synonymy by Wollenberg, Veith, Noonan, and Lötters, 2006, Copeia, 2006: 623-629.
- *Dendrobates tinctorum* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11. Typographic error.
- *Dendrobates tinctorius azureus* — Ouboter and Jairam, 2012, Amph. Suriname: 106.

**Distribution:** Lowland forests of the Guianas and adjacent Brazil.

**Comment:** The nomenclatural history of this species was reviewed by Lescure, 1976, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 377: 484-486. Hoogmoed, 1971, Aquar. Terrar. Z., 24: 1-7, discussed distribution in Surinam. Problems associated with the neotype designation were discussed by Lescure, 1982, Bull. Zool. Nomencl., 39: 267. See account by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 45-49. Lescure and Marty, 2000, Collect. Patrimoines Nat., Paris, 45: 88-91, provided a brief account and photo. Wollenberg, Veith, Noonan, and Lötters, 2006, Copeia, 2006: 623-629, discussed polymorphism and geographic genic variation. Noonan and Gaucher, 2006, Mol. Ecol., 15: 4425-4435, reported on geographic genic variation and the marks on this of vicariant biogeography. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 546-558, provided an account. Wollenberg, Lötters, Mora-Ferrer, and Veith, 2008, Biol. J. Linn. Soc., 93: 433-444, reported on color pattern variation and evolution. See photograph, map, description of geographic range and habitat, and conservation status (as nominal *Dendrobates azureus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 228. Avila-Pires, Hoogmoed, and Rocha, 2010, Bol. Mus. Parense Emilio Goeldi, Cienc. Nat., 5: 48, disputed the synonymy of *Dendrobates azureus* by way of the argument that the Wollenberg et al., 2008, molecular and morphometric data, favoring synonymy, might be wrong, but without offering counter-evidence beyond opinion. See account for Surinam population by Ouboter and Jairam, 2012, Amph. Suriname: 102-107.See Cole, Townsend, Reynolds, MacCulloch, and Lathrop, 2013, Proc. Biol. Soc. Washington, 125: 392-393, for brief account and records for Guyana.

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***Dendrobates truncatus* (Cope, 1861)**

- *Phyllobates truncatus*Cope, 1861 "1860", Proc. Acad. Nat. Sci. Philadelphia, 12: 372. Syntypes: ANSP 2251-52, according to Malnate, 1971, Proc. Acad. Nat. Sci. Philadelphia, 123: 353. Type locality: "New Grenada" (= Colombia).
- *Hylaplesia trunctata* — Cope, 1863, Proc. Acad. Nat. Sci. Philadelphia, 15: 49.
- *Dendrobates truncatus* — Cope, 1867, J. Acad. Nat. Sci. Philadelphia, Ser. 2, 6: 197.

**Distribution:** Río Magdalena drainage from Chaparral north to the Caribbean coast, and in the lowlands around the northern ends of the central and western Andes, west to the Golfo de Urabá, Colombia, 530-800 m elevation.

**Comment:** See account by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 49-50. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 559-560, provided an account.

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## Genus: *Epipedobates* Myers, 1987

***Epipedobates anthonyi* (Noble, 1921)**

- *Phyllobates anthonyi*Noble, 1921, Am. Mus. Novit., 29: 5. Holotype: AMNH 13739, by original designation. Type locality: "small stream at Salvias, Prov. del Oro, Ecuador".
- *Colostethus anthonyi* — Edwards, 1971, Proc. Biol. Soc. Washington, 84: 148.
- *Phyllobates anthonyi* — Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 5.
- *Dendrobates anthonyi* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates anthonyi* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega anthonyi* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.

**Distribution:** Southwestern Ecuador (Azuay, El Oro, and Loja provinces) and northwestern Peru (Ancash, Piura, and Tumbes departments), west of the Andes, 153-1387 m elevation.

**Comment:** Removed from the synonymy of *Epipedobates tricolor* by Schulte, 1999, Pfeilgiftfrösche: 271, where it had been placed by Henle, 1992, Bonn. Zool. Beitr., 43: 79-129, and Duellman and Wild, 1993, Occas. Pap. Mus. Nat. Hist. Univ. Kansas, 157: 1-53. Graham, Ron, Santos, Schneider, and Moritz, 2004, Evolution, 58: 1781-1793, refined the distribution of this taxon and compared it with *Epipedobates tricolor*. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison

Frogs: 395-403, provided an account. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Epipedobates boulengeri* (Barbour, 1909)**

- Prostherapis femoralisBarbour, 1905, Bull. Mus. Comp. Zool., 46: 101. Syntypes: MCZ 2422, by original designation (originally 22 specimens, some of which sent to other museums), USNM 52406 and 118232-33 (according to Cochran, 1961, Bull. U.S. Natl. Mus., 220: 71), BMNH 1947.2.13.92-93, UMMZ 48070; BMNH 1947.2.13.93 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 29. Type locality: "GorgonaIsland", Departamento Nariño, Colombia. Junior homonym of *Prostherapis femoralis* Boulenger, 1884 "1883".
- Prostherapis boulengeriBarbour, 1909, Proc. Biol. Soc. Washington, 22: 87. Replacement name for *Prostherapis femoralis* Barbour, 1905.
- Phyllobates boulengeri — Barbour and Noble, 1920, Bull. Mus. Comp. Zool., 63: 402. Parker, 1926, Ann. Mag. Nat. Hist., Ser. 9, 17: 553; Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 5.
- Colostethus boulengeri — Savage, 1968, Copeia, 1968: 757.
- Dendrobates boulengeri — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates boulengeri* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega boulengeri* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.

**Distribution:** Dense, wet forests of GorgonaI. and the wet southern Chocoan region from the lower San Juan drainage of western Colombia south to northwestern Ecuador.

**Comment:** Lötters, Reichle, and Jungfer, 2003, J. Nat. Hist., 37: 1899-1911, suggested on the basis of call evidence that this name covers at least two species. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 404-408, provided an account and suggested that nominal *Epipedobates boulengeri* may be a complex of species.

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***Epipedobates darwinwallacei* Cisneros-Heredia and Yánez-Muñoz, 2011**

- *Epipedobates robnatali*van der Horst and Woldhuis, 2006, DN Mag., 2006 (4): xxx. Holotype: not designated. Type locality: near Rio Mindo on trail from Mindo, ca. 1800 m elevation, Pichincha, Ecuador. Invalid nomenclatural act under Art. 16.4 of the International Code of Zoological Nomenclature (1999) for reason of lacking explicit designation of a type.
- *Epipedobates darwinwallacei*Cisneros-Heredia and Yánez-Muñoz, 2011 "2010", Avanc. Cienc. Ingen., Quito, Secc. B,, 2 (3): 84. Holotype: DHMECN 5854, by original designation. Type locality: " Saragoza-Río Cinto (78° 45′ 15.7″ W, 00° 07′ 44.1″ S, 1390 m), on the Lloa-Mindo old road, provincial de Pichincha, República del Ecuador ".

**Distribution:** Western slopes of the Cordillera Occidental of the Andes in northwestern Ecuador (PichinchaProvince), at known elevations of 858 to 1719 m.

**Comment:** Prior to its naming confused with *Epipedobates boulengeri* and *Epipedobates espinosai* according to the original publication. Arteaga-Navarro, Bustamante, and Guayasamin, 2013, Amph. Rept. Mindo: 97–98, provided an account and dot map for Ecuador.

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***Epipedobates espinosai* (Funkhouser, 1956)**

- *Phyllobates espinosai*Funkhouser, 1956, Zoologica, New York, 41: 76. Holotype: CAS-SU10577, by original designation. Type locality: "Hacienda Espinosa, elevation about 1,000 ft., 9 km. west of Santo Domingo de los Colorados, Province of Pichincha, northwestern Ecuador".
- *Dendrobates espinosai* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.
- *Epipedobates espinosai* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Ameerega espinosai* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.

**Distribution:** Wet Chocoan region of the Andes in northwestern Ecuador.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 409, provided an account and suggested that possibility that this taxon is a junior synonym of *Epipedobates boulengeri*.

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***Epipedobates machalilla* (Coloma, 1995)**

- *Colostethus machalilla*Coloma, 1995, Misc. Publ. Mus. Nat. Hist. Univ. Kansas, 87: 38. Holotype: QCAZ 1414, by original designation. Type locality: "Río Ayampe, 25 km N Montañita, 1° 40′ S, 80° 47′ W, 70 m, boundary of Provincia Manabí and Provincia Guayas, Ecuador".
- *Epipedobates machalilla* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 166.

**Distribution:** Pacific lowlands of southern and central Ecuador (provinces of El Oro, Los Ríos, Bolivar, Guayas, Azogues, and Manabí) at elevations of 10-515 m.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 410-412, provided an account. See statement of geographic range, habitat, and conservation status (as *Colostethus machalilla*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Epipedobates narinensis* Mueses-Cisneros, Cepeda-Quilindo, and Moreno-Quintero, 2008**

- *Epipedobates narinensis*Mueses-Cisneros, Cepeda-Quilindo, and Moreno-Quintero, 2008, Pap. Avulsos Zool., São Paulo, 48: 2. Holotype: ICN 53344, by original designation. Type locality: "COLOMBIA, Nariño, Municipio de Barbacoas, corregimiento de El Diviso, vereda El Berlín, Reserva Natural Biotopo Selva Húmeda, alrededores de la Cabaña, 01°24′40.5″N, 78°17′06.4″W, 600 m."

**Distribution:** Southern state of Nariño. Colombia.

**Comment:** Confused with *Epipedobates boulengeri* prior to its naming, according to the original publication.

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***Epipedobates tricolor* (Boulenger, 1899)**

- *Prostherapis tricolor*Boulenger, 1899, Ann. Mag. Nat. Hist., Ser. 7, 4: 455. Syntypes: BMNH 1947.2.14.16-19; BMNH 1947.2.14.18 designated lectotype by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 33. Type locality: "Porvenir, Bolivar, western slope, about 5800 feet [1769 m]", Ecuador.
- *Phyllobates tricolor* — Barbour and Noble, 1920, Bull. Mus. Comp. Zool., 63: 401. Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 6.
- *Dendrobatestricolor* — Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 332.

- *Epipedobates tricolor* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Colostethus paradoxus*Rivero, 1991, Breviora, 493: 20. Holotype: MCZ 103924, by original designation. Type locality: "Lamtac, Cuenca, 2,535 m, Provincia Azuay, Ecuador". Synonymy by Rivero and Almendáriz, 1992 "1991", Politecnica, Quito, 16: 106 (citing L. Coloma); Duellman and Wild, 1993, Occas. Pap. Mus. Nat. Hist. Univ. Kansas, 157: 1-53.
- *Epipedobates bicolor* — Rivero and Almendáriz, 1992 "1991", Politecnica, Quito, 16: 106. Error for *Epipedobates tricolor*.
- *Ameerega tricolor* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.

**Distribution:** Andean slopes of BolivarProvince, central Ecuador, ca. 1000-1769 elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 413-416, provided an account and noted that almost all literature under the name of *Epipedobates tricolor* is actually based on *Epipedobates anthonyi*. See photograph, map, description of geographic range and habitat, and conservation status (as *Epipedobates tricolor*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 231.

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## Genus: *Excidobates* Twomey and Brown, 2008

### *Excidobates captivus* (Myers, 1982)

- *Dendrobates captivus*Myers, 1982, Am. Mus. Novit., 2721: 14. Holotype: AMNH 42963, by original designation. Type locality: "mouth of the Río Santiago, 580 feet (177 m.) elevation, Department of Amazonas, Peru. The Río Santiago flows into the Río Marañón at about 4° 26′ S, 77° 38′ W".
- *Ranitomeya captiva* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Adelphobates captivus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.
- *Excidobates captivus* — Twomey and Brown, 2008, Herpetologica, 64: 121-137.

**Distribution**
Known only from the valley formed between the Cordillera del Condor and the Cerros de Campanquis, Amazonas, Peru.

**Comment**
Schulte, 1999, Pfeilgiftfrösche: 143-146, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 516-517, provided a brief account (as *Adelphobates captivus*). See account by Twomey and Brown, 2008, Herpetologica, 64: 121-137.

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### *Excidobates condor* Almendáriz, Ron, and Brito M., 2012

- *Excidobates condor*Almendáriz, Ron, and Brito-M., 2012, Pap. Avulsos Zool., São Paulo, 52: 389. Holotype: EPN 11511, by original designation. Type locality: "Loma Paquisha Alto (78° 30′ 3.13″ O, 03° 54′ 49.7″ S, 1800 msnm), Cantón Paquisha, Provincia de Zamora Chinchipe, Ecuador".

**Distribution**
Known only from three nearby localities in the Cantón Paquisha, Provincia de Zamora Chinchipe, Ecuador.

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***Excidobates mysteriosus* (Myers, 1982)**

- *Dendrobates mysteriosus*Myers, 1982, Am. Mus. Novit., 2721: 18. Holotype: AMNH 55349, by original designation. Type locality: "vicinity of Santa Rosa, 3000 feet (*ca.* 900 m.) elevation, upper Río Marañón drainage, Department of Cajamarca, Peru. The type locality lies in the hills northwest of the confluence of the Río Chinchipe with the Río Marañón, at about 5° 22′ S, 78° 41′ W".
- *Ranitomeya mysteriosa* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- "*Dendrobates" mysteriosus* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 174. Excluded from *Colostethus* but not assigned to genus.
- *Excidobates mysteriosus* — Twomey and Brown, 2008, Herpetologica, 64: 125.

**Distribution:** Known only from two localities in Cajamarca Department, Peru (type locality and the Cordillera del Condor).

**Comment:** See Schulte, 1990, Bol. Lima, 12: 57-68, for second locality and discussion of relationships. Schulte, 1999, Pfeilgiftfrösche: 148-157, provided an account. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 174, discussed the species, known only from the holotype, and could not allocate it beyond Dendrobatinae, merely retaining it in a non-taxon "*Dendrobates*". Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 625-626, provided an account. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates mysteriosus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 229.

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## Genus: *Hyloxalus* Jiménez de la Espada, 1870

***Hyloxalus azureiventris* (Kneller and Henle, 1985)**

- *Phyllobates azureiventris*Kneller and Henle, 1985, Salamandra, 21: 62. Holotype: ZFMK 41507, by original designation. Type locality: "km 26, Carretera Tarapoto--Yurimaguas, Departamento San Martín, Peru, ca. 700 m NN".
- *Dendrobates azureiventris* — Myers and Burrowes, 1987, Am. Mus. Novit., 2899: 1-17.
- *Epipedobates azureiventris* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 303.
- *Phyllobates (Pseudendrobates) azureiventris* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Cryptophyllobates azureiventris* — Lötters, Jungfer, and Widmer, 2000, Jahresheft. Ges. Naturkd. Württemberg, 156: 236.
- *Ameerega azureiventris* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 130, by implication.
- *Hyloxalus azureiventris* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 168.

**Distribution:** Lower eastern versant of the Andes in the upper Amazon basin of the Department of San Martín, Peru.

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 245-253, provided an account (as *Epipedobates azureiventris*). See account by Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 317-318. See photograph, map, description of geographic range and habitat, and conservation status (as *Cryptophyllobates azureiventris*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 227.

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## Genus: *Minyobates* Myers, 1987

***Minyobates steyermarki* (Rivero, 1971)**

- *Dendrobates steyermarki*Rivero, 1971, Kasmera, 3: 390. Holotype: UPRM 3399, by original designation. Type locality: "Cerro Yapacana, 1.200 m., Territorio Federal Amazonas, Venezuela".
- *Minyobates steyermarki* — Myers, 1987, Pap. Avulsos Zool., São Paulo, 36: 304.
- *Dendrobates steyermarki* — Jungfer, Lötters, and Jörgens, 2000, Herpetofauna, Weinstadt, 22: 11, by implication.

**Distribution:** Cerro Yapacana, 600-1200 m elevation, Amazonas, Venezuela.

**Comment:** See account (as *Dendrobates steyermarki*) by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 36. See comment on distribution by Gorzula and Señaris, 1999 "1998", Scient. Guaianae, 8: 27 (as *Minyobates steyermarki*). Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 439-440, provided an account. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates speciosus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 230.

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## Genus: *Oophaga* Bauer, 1994

***Oophaga arborea* (Myers, Daly, and Martínez, 1984)**

- *Dendrobates arboreus*Myers, Daly, and Martínez, 1984, Am. Mus. Novit., 2783: 5. Holotype: AMNH 116724, by original designation. Type locality: "in cloud forest at 1120 m. elevation on the continental divide above the upper Quebrada de Arena, at longitude 82° 12′ 31" W, on the border between the provinces of Chiriquí and Bocas del Toro, Panama".
- *Oophaga arborea* — Bauer, 1994, Ripa, Netherlands, Fall: 4; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Western cordilleras and Atlantic lowlands of Panama, below 1120 m elevation.

**Comment:** See comment under *Oophaga pumilio*. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 562–566, provided an account. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates arboreus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 228. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Oophaga* (as Dendrobates) in Central America and provided map and photographs of this species.

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***Oophaga granulifera* (Taylor, 1958)**

- *Dendrobates granuliferus*Taylor, 1958, Univ. Kansas Sci. Bull., 39: 10. Holotype: KU 43874, by original designation. Type locality: "on low mountains, north of the Río Diquis, about 3 miles north of Palmar [Norte], [Cantón de Osa,] Puntarenas Province, Costa Rica". Savage, 1974, Rev. Biol. Tropical, 22: 101, commented on the type locality.
- *Ranitomeya granuliferus* — Anonymous, 1985, Ripa, Netherlands, April: 2.
- *Dendrobates granulifer* — Duellman, 1993, Univ. Kansas Mus. Nat. Hist. Spec. Publ., 21: 60. Incorrect subsequent spelling of the species name (Art. 32.5.1, 1999 Code).
- *Oophaga granulifera* — Bauer, 1994, Ripa, Netherlands, Fall: 4; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Lowland forests of the Golfo Dulce region of the Pacific coast of Costa Rica, sea level to 100 m elevation; presumably in adjacent Panama.

**Comment:** See accounts by Savage, 1968, Copeia, 1968: 760; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 36–37; and Savage, 2002, Amph. Rept. Costa Rica: 384–386 (who discussed natural and introduced populations within Costa Rica). Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 567–575, provided an account. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates granuliferus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 229, who reported the range to possibly include southeastern Costa Rica and adjacent northwestern Panama. Brusa, Bellati, Meuche, Mundy, and Pröhl, 2013, J. Biogeograph., 40: 394–408, reported on phenotypic, call, and molecular diversification in Costa Rica. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as Dendrobates) in Central America and provided a map and photograph of this species.

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***Oophaga histrionica* (Berthold, 1845)**

- Hylaplesia de CocteauDuméril and Bibron, 1841, Erp. Gen., 8: 653. Manuscript name coined as a synonym of *Dendrobates tinctorius*.
- *Dendrobates histrionicus*Berthold, 1845, Nachr. Ges. Wiss. Göttingen, 1845: 43. Syntypes: ZFMK 28119-21, 28123, AMNH 140863 (formerly ZFMK 28122); ZFMK 28123 designated lectotype by Myers and Böhme, 1996, Am. Mus. Novit., 3185: 8. Type locality: "Neu-Granada . . . . Provinz Popayan"; clarified by Myers and Böhme, 1996, Am. Mus. Novit., 3185: 17, to "Pacific versant northwestern Colombia, probably upper Río San Juan drainage in the present-day Department of Risaralda" western Colombia.
- *Dendrobates tinctorius* var. *cocteani* — Steindachner, 1864, Verh. Zool. Bot. Ges. Wien, 14: 261. Incorrect subsequent spelling of *cocteaui*.
- *Dendrobates tinctorius cocteaui* — Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1027. Status distinct from *Dendrobates tinctorius tinctorius* rejected by Laurent, 1942, Bull. Mus. R. Hist. Nat. Belg., 18: 1-20.
- *Dendrobates tinctorius* var. *coctaei* — Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1027. Incorrect subsequent spelling of *cocteaui*.
- *Dendrobates tinctorius witte*iLaurent, 1942, Bull. Mus. R. Hist. Nat. Belg., 18: 12. Holotype: IRSNB I.G. 1942, Reg. 62; subsequently reported as IRSNB 1.038 by Lang, 1990, Doc. Trav., Inst. R. Sci. Nat. Belg., 59: 7. Type locality: "'Los Mangos' (Colombie)". Synonymy by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobatestinctoriushistrionicus* — Laurent, 1942, Bull. Mus. R. Hist. Nat. Belg., 18: 12.
- *Dendrobates histrionica* — Dunn, 1944, Caldasia, 2: 520.
- *Dendrobates histrionicus concluens*Blomberg, 1955, Guld att Hämta: 122. Type(s): Not designated. Type locality: "La Ciudad de Madrigal [sic]", Department of Nariño, southwestern Colombia. Apparently a valid nomenclatural act, although not noted as such prior to a personal commun. to DRF from M. Lundberg (8 July 2011).
- *Dendrobates histrionicus confluens*Funkhouser, 1956, Zoologica, New York, 41: 75. Holotype: CAS-SU (formerly SU) 13151, by original designation. Type locality: "La Ciudad (de Madrigar), lying in the pass through the western Cordillera of the Río Patia, Department of Nariño, southwestern Colombia (approximately Long. 77° 30′ W. X Lat. 1° 46′ N.), at an elevation of ±600 mtr."
- *Dendrobates tinctorius confluens* — Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 32.
- *Oophaga histrionica* — Bauer, 1994, Ripa, Netherlands, Fall: 4. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Chocoan region of western Colombia, below 1000 m elevation.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 576-584, provided an account.

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***Oophaga lehmanni* (Myers and Daly, 1976)**

- *Dendrobates lehmanni*Myers and Daly, 1976, Bull. Am. Mus. Nat. Hist., 157: 240. Holotype: AMNH 88153, by original designation. Type locality: "in montane forest approximately 13 km

west of Dagua (town), 850-1200 meters elevation on south-facing versant of upper Río Anchicayá drainage, Department of Valle, Colombia".
- *Oophaga lehmanni* — Bauer, 1994, Ripa, Netherlands, Fall: 4. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Western slope of the Cordillera Occidental in Valle del Cauca, Colombia, 600-1200 m elevation; isolated record on the western slope of the Andes in Chocó, near the Risaralda border.

**Comment:** Lötters, 1992, Salamandra, 28: 138-144, doubted the distinctiveness of this species from *Oophaga histrionica*. Castro-Herrera and Amézquita, 2004, *in* Rueda-Almonacid et al. (eds.), Libro Rojo Anf. Colombia: 162-167, provided an account and map. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 583-588, provided an account. See photograph, map, description of geographic range and habitat, and conservation status (as *Dendrobates lehmanni*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 229.

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***Oophaga occultator* (Myers and Daly, 1976)**

- Dendrobates occultatorMyers and Daly, 1976, Bull. Am. Mus. Nat. Hist., 157: 244. Holotype: AMNH 88143, by original designation. Type locality: "La Brea, 50 meters elevation, on the Río Patia (=upper tributary Río Saija), at an estimated 15 km by river below mouth of Quebrada Guanguí, Department of Cauca, Colombia".
- Oophaga occultator — Bauer, 1994, Ripa, Netherlands, Fall: 4. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Western slope of the Western Andes in Cauca, Colombia, 50-200 m elevation.

**Comment:** See account and map by Amézquita, 2004, *in* Rueda-Almonacid et al. (eds.), Libro Rojo Anf. Colombia: 308-312. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 589-590, provided an account.

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***Oophaga pumilio* (Schmidt, 1857)**

- *Dendrobates pumilio*Schmidt, 1857, Sitzungsber. Akad. Wiss. Wien, Phys. Math. Naturwiss. Kl., 24: 12. Holotype: KM 1018/1346; lost according to Savage, 1968, Copeia, 1968: 762; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 37. Type locality: "Neu-Granada"; restricted to "der Weg zwischen Bocca del toro und dem Vulcan Chiriqui [Panama]...zwischen 5000′ und 7000′ Höhe" [Polish feet, therefore = 1150-1160 m, according to Savage, 1970, Proc. California Acad. Sci., Ser. 4, 38: 273-288] by Schmidt, 1858, Denkschr. Akad. Wiss. Wien, Math. Naturwiss. Kl., 14: 249.
- *Hylaplesia pumilio* — Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 126.
- *Dendrobates typographus*Keferstein, 1867, Nachr. Ges. Wiss. Göttingen, 18: 360. Holotype: ZFMK 28115 (by implication) according to Böhme and Bischoff, 1984, Bonn. Zool. Monogr., 19: 179. Type locality: "Costarica". Synonymy by Dunn, 1941, Copeia, 1941: 88; Savage, 1968, Copeia, 1968: 761; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Dendrobates ignitus*Cope, 1874, Proc. Acad. Nat. Sci. Philadelphia, 26: 68. Syntypes: ANSP 2724-29, according to Dunn and Stuart, 1951, Copeia, 1951: 58, and Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 37. Only one specimen noted in description so the status of the "syntypes" is questionable. Type locality: "region of Nicaragua". Dunn and Stuart, 1951, Copeia, 1951: 58, noted that the data "Machuca", Nicaragua. Synonymy with *Dendrobates typographus* by Cope, 1875 "1876", J. Acad. Nat. Sci. Philadelphia, Ser. 2, 8: 102; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 148; and Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 631. Synonymy by Savage, 1968, Copeia, 1968: 761; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Hylaplesia typographa* — Brocchi, 1882, Miss. Scient. Mex. Amer. Centr., Rech. Zool., 3(2, livr. 2): 88. Günther, 1900, Biol. Centr. Amer., Rept. Batr., Part 153: 207.

- *Hylaplesia ignita* — Knauer, 1878, Naturgesch. Lurche: 112.
- *Dendrobates typographicus* — Oertter, 1951, Aquar. Terrar. Z., 4: 48-49. Incorrect subsequent spelling.
- *Dendrobates galindoi*Trapido, 1953, Fieldiana, Zool., 34: 182. Holotype: FMNH 71053, by original designation. Type locality: "altitude 20 feet . . . at the edge of the village of Bastimentos, island of Bastimento, Bocas del Toro Province, Republic of Panama". Synonymy by Savage, 1968, Copeia, 1968: 761; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: : 27.
- *Oophaga pumilio* — Bauer, 1994, Ripa, Netherlands, Fall: 4. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Lowland forests of the Caribbean drainage of Central America, from eastern Nicaragua to western Panama.

**Comment:** See accounts by Savage, 1968, Copeia, 1968: 761–762, and Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 37–39. See account by Savage, 2002, Amph. Rept. Costa Rica: 386–388. Hagemann and Pröhl, 2007, Mol. Phylogenet. Evol., 45: 740–747, noted that the mitochondrial tree of this species presented *Oophaga pumilio* as forming two groups, one of which is the sister taxon of *Oophaga arborea* and the other, which is paraphyletic with respect to *Oophaga speciosa*. These authors suggested that *Oophaga pumilio* (as *Dendrobates pumilio*) might represent three species for which the names *Dendrobates typhographus* Keferstein, 1867, and *Dendrobates ignitus* Cope, 1874, are available; *Dendrobates pumilio* Schmidt, 1857, is available for populations south of the northern populations, except for the Escudo de Veraguas population in Panama which does not have an available name. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 591–609, provided an account. Batista and Köhler, 2008, Salamandra, 44: 225–234, reported on variation in western Panama. See comments by Sunyer, Páiz, Dehling, and Köhler, 2009, Herpetol. Notes, 2: 189–202, regarding Nicaraguan populations. Hauswaldt, Ludewig, Vences, and Pröhl, 2011, J. Biogeograph., 38: 711–726, reported on genetic variation that was consistent with cryptic species. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as *Dendrobates*) in Central America and provided a map and photograph of this species. Galindo-Uribe, Sunyer, Hauswaldt, Amézquita, Pröhl, and Vences, 2014, Salamandra, 50: 225–235, reported on color-pattern variation and phylogeography.

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***Oophaga speciosa* (Schmidt, 1857)**

- *Dendrobates speciosus*Schmidt, 1857, Sitzungsber. Akad. Wiss. Wien, Phys. Math. Naturwiss. Kl., 24: 12. Syntypes: KM 1017/1345 (9 specimens), lost according to Savage, 1970, Proc. California Acad. Sci., Ser. 4, 38: 273–288, who noted one additional syntype in the NHMW; Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 16, and Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 16, recorded two specimens, NHMW 16518 and 16513, as syntypes. Type locality: "Neu-Granada"; restricted to "der Weg zwischen Bocca del toro und dem Vulcan Chiriqui [Panama]. . . zwischen 5000′ und 7000′ [Polish feet, therefore = 1150-1160 m, according to Savage, 1970, Proc. California Acad. Sci., Ser. 4, 38: 273–288] Höhe" by Schmidt, 1858, Denkschr. Akad. Wiss. Wien, Math. Naturwiss. Kl., 14: 249.
- *Hylaplesia speciosa* — Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 126.
- *Dendrobates speciosus* — Savage, 1968, Copeia, 1968: 763; Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Oophaga speciosa* — Bauer, 1994, Ripa, Netherlands, Fall: 4; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

**Distribution:** Cloud forest at 1140–1410 m at eastern end of Cordillera de Talamanca in western Panama.

**Comment:** See accounts by Savage, 1968, Copeia, 1968: 763, Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 39. See also Edwards, Daly, and Myers, 1988, Lloydia, J. Nat. Prod., 51: 1188–1189. See comment under *Oophaga pumilio*. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 610–613, provided an account. See photograph, map, description of geographic

range and habitat, and conservation status (as *Dendrobates speciosus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 230. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as *Dendrobates*) in Central America and provided a map and photograph of this species.

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***Oophaga sylvatica* (Funkhouser, 1956)**

- *Dendrobates histrionicus sylvaticus*Funkhouser, 1956, Zoologica, New York, 41: 73. Holotype: CAS-SU (formerly SU) 10568, by original designation. Type locality: "Hacienda Espinosa, elevation about 1,000 ft., 9 km. west of Santo Domingo de los Colorados, Province of Pichincha, north-western Ecuador".
- *Oophaga sylvatica* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.
- *Dendrobates sylvaticus* — Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

**Distribution:** Southwestern Colombia (Cauca and Nariño departments) and northwestern Ecuador (Pichincha, Esmeraldas, Imbabura, and Los Rios provinces), below 1000 m elevation

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 614-618, provided an account. See statement of geographic range, habitat, and conservation status (as *Dendrobates sylvaticus*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Oophaga vicentei* (Jungfer, Weygoldt, and Juraske, 1996)**

- *Dendrobates vicentei*Jungfer, Weygoldt, and Juraske, 1996, Herpetofauna, Weinstadt, 18: 18. Holotype: ZFMK 61100, by original designation. Type locality: "Aus dem Fussweg von El Copé nach Río Blanco del Norte, Passhöhe der Kontinentlscheide etwa 1 km östlich des Cerro Blanco, etwa 8° 40′ N, 80° 36′ W, 912 m NN, Porvincia de Coclé, Panamá".
- *Oophaga vicentei* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 172.

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**Distribution:** Caribbean versant of the provinces of Veraguas and Coclé and the upper reaches of Pacific versant in Coclé, central Panama.

**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 619–623, provided an account. Köhler, 2011, Amph. Cent. Am.: 131–136, provided a key to the species of *Andinobates*, *Dendrobates*, and *Oophaga* (as *Dendrobates*) in Central America and provided a map and photograph of this species.

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## Genus: *Phyllobates* Duméril and Bibron, 1841

***Phyllobates aurotaenia* (Boulenger, 1913)**

- *Dendrobates aurotaenia*Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1029. Holotype: BMNH 1947.2.15.13, according to XXX. Type locality: "Peña Lisa, Condoto, 300 feet", Departamento Chocó, Colombia.
- *Phyllobates aurotaenia* — Dunn, 1957, Copeia, 1957: 78.
- *Phyllobates (Phyllobates) aurotaenia* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.

**Distribution:** Wet forests of the Chocoan region of western Colombia (Chocó and Valle del Cauca departments) in the Atrato and San Juan drainages, 90-1000 m elevation.

**Comment:** Removed from the synonymy of *Ameerega femoralis* (as *Phyllobates femoralis*) by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 21, where it had been placed by Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 40. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 418-420, provided an account. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Phyllobates bicolor* Duméril and Bibron, 1841**

- *Phyllobates bicolor*Duméril and Bibron, 1841, Erp. Gen., 8: 638. Holotype: MNHNP 838 according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 34. Type locality: "l'île de Cuba"; corrected to Colombia by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 23. Placed on the Official List of Specific Names in Zoology by Anonymous, 2009, Opin. 2223, Bull. Zool. Nomencl., 66: 103-105.
- *Phyllobates melanorrhinus*Berthold, 1845, Nachr. Ges. Wiss. Göttingen, 1845: 43. Syntypes: Including ZFMK 28126-27, 28129-31, and AMNH 140864 (formerly ZFMK 28128); ZFMK 28130 designated lectotype by Myers and Böhme, 1996, Am. Mus. Novit., 3185: 5. Type locality: "Neu-Granada .... Provinz Popayan"; clarified by Myers and Böhme, 1996, Am. Mus. Novit., 3185: 17, to "Pacific versant northwestern Colombia, probably upper Río San Juan drainage in the present-day Department of Risaralda" western Colombia. Synonymy by Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 36. Myers and Böhme, 1996, Am. Mus. Novit., 3185: 1-20, discussed synonymy.
- *Phyllobates chocoensis*Posada Arango, 1869, Bull. Soc. Med. Allemande Paris, 1869: 206. Types: Not stated, although likely originally in MNHNP. Type locality: "forets de la Nouvelle-Grenade . . . . Chocó". Synonymy (with *Dendrobates histrionicus*) by Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1028. Synonymy (with *Phyllobates pictus*) by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11. Synonymy with *Phyllobates bicolor* by Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 23-24.
- *Dendrobates tinctorius* var. *chocoensis* — Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1028. Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 26-28.
- *Phyllobates nicefori*Noble, 1923, Am. Mus. Novit., 88: 1. Holotype: AMNH 14028, by original designation. Type locality: "town of Andes [Antioquia], Colombia, South America .... probably in the vicinity of Medellin". Synonymy by Cochran and Goin, 1970, Bull. U.S. Natl. Mus., 288: 36.
- *Phyllobates melanorhinus* — Gorham, 1963, Canad. Field Nat., 77: 25.

**Distribution:** Western flank of the northern part of the Cordillera Occidental, 400-1500m, northwestern Colombia (Chocó and Valle del Cauca).

**Comment:** See Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 328. See Lötters, Castro-Herrera, Köhler, and Richter, 1997, Rev. Fr. Aquar. Herpetol., 24: 55-58. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 421-425, provided an account. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 614.

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***Phyllobates lugubris* (Schmidt, 1857)**

- *Dendrobates lugubris*Schmidt, 1857, Sitzungsber. Akad. Wiss. Wien, Phys. Math. Naturwiss. Kl., 24: 12. Holotype: KM 1016/1347, lost, according to Savage, 1970, Proc. California Acad. Sci., Ser. 4, 38: 279. Type locality: "Neu-Granada"; restricted to "der Weg zwischen Bocca del toro und dem Vulcan Chiriqui [Panama]. . . zwischen 5000′ und 7000′ Höhe" by Schmidt, 1858, Denkschr. Akad. Wiss. Wien, Math. Naturwiss. Kl., 14: 249.
- *Hylaplesia lugubris* — Brocchi, 1882, Miss. Scient. Mex. Amer. Centr., Rech. Zool., 3(2, livr. 2): 88.
- *Dendrobates lugubris* — Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 631.

- *Phyllobates beatriciae*Barbour and Dunn, 1921, Proc. Biol. Soc. Washington, 34: 159. Holotype: MCZ 8022, by original designation. Type locality: "wooded hill back of Victoria farm near Zent not far from Puerto Limon, [Cantón de Matina, Provincia de Limón,] Costa Rica". Savage, 1974, Rev. Biol. Tropical, 22: 111, commented on the type locality. Synonymy by Dunn, 1924, Occas. Pap. Mus. Zool. Univ. Michigan, 151: 5; Taylor, 1952, Univ. Kansas Sci. Bull., 35: 640.
- *Phyllobates lugubris* — Dunn, 1924, Occas. Pap. Mus. Zool. Univ. Michigan, 151: 5; Taylor, 1952, Univ. Kansas Sci. Bull., 35: 640; Silverstone, 1976, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 27: 5.
- *Dendrobates lugubris* — Dunn, 1940, Proc. Acad. Nat. Sci. Philadelphia, 92: 110.

**Distribution:** Humid lowlands of the Atlantic versant from extreme southeastern Nicaragua to northwestern Panama; one record just west of the Panama Canal, below 600 m in elevation.

**Comment:** See account by Savage, 1968, Copeia, 1968: 763-766; Pacific versant populations formerly associated with this species now regarded as a distinct species, *Phyllobates vittatus*. See accounts by Savage, 2002, Amph. Rept. Costa Rica: 389-390, and Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 426-430. See Ibáñez, Jaramillo, and Solís, 1994, Herpetol. Rev., 25: 161, for record in Panamá Province, Panama. See comments by Sunyer, Páiz, Dehling, and Köhler, 2009, Herpetol. Notes, 2: 189-202, regarding Nicaraguan populations. Köhler, 2011, Amph. Cent. Am.: 137–138, provided compared the species of *Phyllobates* in Central America and provided a map and photograph of this species

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***Phyllobates terribilis* Myers, Daly, and Malkin, 1978**

- *Phyllobates terribilis*Myers, Daly, and Malkin, 1978, Bull. Am. Mus. Nat. Hist., 161: 313. Holotype: AMNH 88876, by original designation. Type locality: "lowland rain forest at Quebrada Guanguí, about 0.5 km above its junction with Río Patia, 100-200 m elevation, in upper Río Saija drainage, Department of Cauca, Colombia".

**Distribution:** Region of the type locality (Cauca, Colombia) and north ca. 60 km into Valle de Caudca, 100-200 m elevation.

**Comment:** See Lötters, Castro-Herrera, Köhler, and Richter, 1997, Rev. Fr. Aquar. Herpetol., 24: 55-58. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 431-433, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 236. Nowacki and Doan, 2012, Cat. Am. Amph. Rept., 888: 1-5, provided a detailed account. Márquez, Corredor, Galvis, Góez, and Amézquita, 2012, Acta Herpetol., Firenze, 7: 341-345, provided a range extension to the north into the state of Valle de Cauca, Colombia.

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***Phyllobates vittatus* (Cope, 1893)**

- *Dendrobates tinctorius vittatus*Cope, 1893, Proc. Am. Philos. Soc., 31: 340. Type(s): Not stated; presumably originally in the ANSP, USNM, or Philadelphia Mus. Type locality: "Buenos Ayres", (= Buenos Aires, Cantón de Buenos Aires, Provincia de Puntarenas), Costa Rica. Savage, 1974, Rev. Biol. Tropical, 22: 81, commented on the type locality.
- *Phyllobates vittatus* — Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 6, 11.

**Distribution:** Humid forests of the Golfo Dulce region of the Pacific coast of Costa Rica, 20 to 550 m elevation; expected to occur in immediately adjacent southwestern Panama.

**Comment:** See comment under *Phyllobates lugubris*. Removed from the synonymy of *Phyllobates lugubris* by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 6, where it had been placed by Savage, 1968, Copeia, 1968: 745-776. See Ryan, 2002, Herpetol. Rev., 33: 318, for a range extension in Costa Rica and a comment on what this locality implies about the more general distribution. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 434-437, provided an account. See photograph, map, description of geographic range and habitat, and conservation status

(as *Nephelobates haydeeae*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 236. Köhler, 2011, Amph. Cent. Am.: 137–138, provided compared the species of *Phyllobates* in Central America and provided a map and photograph of this species.

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## Genus: *Ranitomeya* Bauer, 1986

**Incertae Sedis**

*Dendrobates rubrocephalus*Schulte, 1999, Pfeilgiftfrösche: 138. Holotype: R. Schulte Collection BD 5H, to be deposited in the MUSM, by original designation. Type locality: "Ceja de Selva, Ostandenabhang und vielleicht vorgelagerte Ostkordilleren, Dep. Pasco und Junin, Höhe vermutlich zwischen 600 und 1500 m." * *Ranitomeya rubrocephala*—Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171. Twomey, Brown and Lötters IN Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 90, regarded this poorly diagnosed taxon to be a nomen dubium, not associable with a living population of orgamisms.

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***Ranitomeya amazonica* (Schulte, 1999)**

- *Dendrobates amazonicus*Schulte, 1999, Pfeilgiftfrösche: 32. Holotype: MUSM (formerly R. Schulte Collection BD 3P), by original designation. Type locality: "Bosque UNAP, Iquitos (Peru), ca. 130 m NN".
- *Ranitomeya amazonica* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Widely separate populations: one in northwestern Amazonian Peru (Loreto), extreme southeastern Colombia (Amazonas) and expect in the adjacent borderlands of Brazil; extreme southern Guyana; eastern French Guiana; region of the mouth of the Amazon in Brazil.

**Comment:** Lötters and Vences, 2001 "2000", Salamandra, 36: 247-260, questioned the status of this taxon with respect to *Ranitomeya ignea* and *Ranitomeya ventrimaculata* (all as *Dendrobates*). Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 463-465, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya variabilis* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 78, and who provided an account on page 78-85.

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***Ranitomeya benedicta* Brown, Twomey, Pepper, and Sanchez-Rodriguez, 2008**

- *Ranitomeya benedicta*Brown, Twomey, Pepper, and Sanchez-Rodriguez, 2008, Zootaxa, 1823: 3. Holotype: MUSM 26957, by original designation. Type locality: "near Shucushuyacu (alternative spellings: Shucushyacu and Shucush-yacu), a small town on the east bank of Rio Huallaga near Yurimaguas, Departamento Loreto, Peru; 196 m elevation".
- *Dendrobates benedicta* — Santos, Coloma, Summers, Caldwell, Ree, and Cannatella, 2009, PLoS Biol., 7(3)e56: 0001-0014, by implication.

**Distribution:** Throughout the lowland rainforest of the Pampas del Sacramento in southern Loreto and eastern San Martin, Peru.

**Comment:** In the *Ranitomeya fantastica* group according to the original publication. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 47-51.

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***Ranitomeya cyanovittata* Pérez-Peña, Chávez, Twomey, and Brown, 2010**

- *Ranitomeya cyanovittata*Pérez-Peña, Chávez, Twomey, and Brown, 2010, Zootaxa, 2439: 12. Holotype: CORBIDI02266, by original. Type locality: "Rio Blanco Basin near the Zona Reservada Sierra del Divisor, Departamento Loreto, Peru; 6º55′12″S, 73º50′45″W, 206 m elevation".

**Distribution:** Currently known only in a small area in the vicinity of the Nueva Capanahua community, in the RíoBlancoBasin near the Zona Reservada Sierra del Divisor, Departamento Loreto, Peru, 200-300 m elevation; possibly into adjacent Brazil.

**Comment:** In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 61-64.

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***Ranitomeya defleri* Twomey and Brown, 2009**

- *Ranitomeya defleri*Twomey and Brown, 2009, Zootaxa, 2302: 50. Holotype: MCZ28061, by original designation. Type locality: "'Río Apaporis, Colombia'".
- *Dendrobates defleri* — Santos, Coloma, Summers, Caldwell, Ree, and Cannatella, 2009, PLoS Biol., 7(3)e56: 0001-0014, by implication.

**Distribution**
Puerto Córdoba area in the Apaporis-Caquetá drainage of Amazonas, southeastern Colombia

**Comment**
In the *Ranitomeya defleri* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 40, who provided an account on page 47-48.

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***Ranitomeya fantastica* (Boulenger, 1884)**

- *Dendrobates fantasticus*Boulenger, 1884 "1883", Proc. Zool. Soc. London, 1883: 636. Syntypes: BMNH 1947.2.15.1-4; BMNH 1947.2.15.4 designated lectotype by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 35. Type locality: "Yurimaguas, HuallagaRiver, [Loreto,] Northern Peru".
- *Dendrobates phantasticus* — Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 631. Incorrect subsequent spelling.
- *Ranitomeya fantasticus* — Anonymous, 1985, Ripa, Netherlands, April: 2.
- *Ranitomeya fantastica* — Bauer, 1988, Het Paludarium, Netherlands, November: 6. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Cordillera Escalera and the lowlands to the north in Loreto, Peru.

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 56-69, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 472-475, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. Brown, Twomey, Pepper, and Sanchez-Rodriguez, 2008, Zootaxa, 1823: 1-24, redelimited the species and its range. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 51-52.

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***Ranitomeya flavovittata* (Schulte, 1999)**

- Dendrobates flavovittatusSchulte, 1999, Pfeilgiftfrösche: 80. Holotype: R. Schulte Collection BD 10H, by original designation, presumably destined for MUSM. Type locality: "INIBICO-Labor, Boca des Río Tahuayo, Nordufer, 120 m NN", Peru.
- Ranitomeya flavovittata — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Vicinity of the type locality in northeastern Amazonian Peru (Loreto); likely in adjacent Brazil.
**Comment:** Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 476-477, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 66-68.

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***Ranitomeya imitator* (Schulte, 1986)**

- *Dendrobates imitator*Schulte, 1986, Sauria, Berlin, 8: 11. Holotype: MUSM (formerly MHNJP) 10501, by original designation. Type locality: "km 33, Carretera Tarapoto--Yurimaguas, Departamento San Martín, Peru. 550 m leg."
- *Ranitomeya imitator* — Bauer, 1988, Het Paludarium, Netherlands, November: 6.
- *Dendrobates imitator yurimaguensis-imitator*Schulte, 1999, Pfeilgiftfrösche: 94. *Nomen nudum*. See Lötters and Vences, 2001 "2000", Salamandra, 36: 247-260.
- *Dendrobates imitator imitator* — Schulte, 1999, Pfeilgiftfrösche: 94, by implication.
- *Dendrobates imitator yurimaguensis*Schulte, 1999, Pfeilgiftfrösche: 104. Holotype: R. Schulte Collection BD 40, by original designation; presumably destined for MUSM. Type locality: "Tieflandurwald des Río Shanusi-Paranapura Refugiums, Alto Amazonas (Peru). Ca. 180-300 m NN". Distinctiveness from *Dendrobates imitator imitator* rejected by Lötters and Vences, 2001 "2000", Salamandra, 36: 247-260, and Lötters, Reichle, and Jungfer, 2003, J. Nat. Hist., 37: 1899-1911.
- *Dendrobates imitator intermedius*Schulte, 1999, Pfeilgiftfrösche: 93. Holotype: R. Schulte Collection BD 27, by original designation; presumably destined for MUSM. Type locality: "HuallagaCanyon, Region San Martin, Peru, 200 m NN". Synonymy by Brown and Twomey IN Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 69.
- *Ranitomeya imitator* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Ranitomeya intermedia* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Amazonian rainforests of Peru (Departments: Loreto and San Martín).

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 88-110, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 478-483, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 68-72.

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***Ranitomeya reticulata* (Boulenger, 1884)**

- *Dendrobates reticulatus*Boulenger, 1884 "1883", Proc. Zool. Soc. London, 1883: 635. Syntypes: BMNH, by original designation; BMNH 1947.2.5.10 designated lectotype by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 35. Type locality: "Yurimaguas, HuallagaRiver, [Loreto,] Northern Peru".

- *Dendrobates tinctorius igneus*Melin, 1941, Göteborgs K. Vetensk. Vitterh. Samh. Handl., Ser. B, 1: 66. Syntypes: NHMG 19.1.1925 (2 specimens), according to Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 52. Type locality: "Rio Itaya (near Iquitos), Perú". Synonymy by Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 52. Earlier removed from the synonym of *Ranitomeya quinquevittata* (as *Dendrobates*) by Schulte, 1999, Pfeilgiftfrösche: XXX, where it had been placed by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 11.
- *Ranitomeyareticulata* — Bauer, 1986, Ripa, Netherlands, November: 11. Bauer, 1988, Het Paludarium, Netherlands, November: 2, 5; Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Ranitomeya ignea* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Dendrobates igneus* — Santos, Coloma, Summers, Caldwell, Ree, and Cannatella, 2009, PLoS Biol., 7(3)e56: 0001-0014, by implication.

**Distribution**
Amazonian rainforests of Loreto, Peru, and Pastaza Province, Ecuador.

**Comment:** Myers and Daly, 1980, Am. Mus. Novit., 2692: 1, removed this species from the synonymy of *Ranitomeya quinquevittata*. See also Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1-21. Zimmermann and Zimmermann, 1984, Aquar. Mag., Stuttgart, 1984: 41, mapped an unstated locality other than the type locality. See Myers, 1982, Am. Mus. Novit., 2721: 3-4, who provided another locality with explicit data. Schulte, 1999, Pfeilgiftfrösche: 49-56, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 489-493, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 52-53.

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***Ranitomeya sirensis* (Aichinger, 1991)**

- *Dendrobates sirensis*Aichinger, 1991, Herpetologica, 47: 1. Holotype: NHMW 31892, by original designation. Type locality: "on a horizontal tree 1.2 m above a stream in the Serranía de Sira, Río Llullapichis drainage, 750 m, Departamento Huánuco, Peru (9° 28′ S, 74° 47′ W)".
- *Dendrobates biolat*Morales, 1992, Caribb. J. Sci., 28: 195. Holotype: MUSM 7143, by original designation. Type locality: "Pakitza, 11°56′S, 71°18′W, 340 m de elevación, Reserva de la Biosfera del Manu, Provincia de Tahuamanu, Madre de Dios, Perú". Synonymy by Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 72.
- *Dendrobates lamasi*Morales, 1992, Caribb. J. Sci., 28: 191. Holotype: MUSM 1461, by original designation. Type locality: "Bosque Castilla, NW de Iscozacín, 10° 10′ S, 75° 15′ W, 345 m de elevación, Provincia de Huancabamba, Pasco, Perú". Synonymy by Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 72.
- *Ranitomeya sirensis* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Ranitomeya biolat* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Ranitomeya lamasi* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Amazonian rainforests of Bolivia (Department: Pando), Brazil (State: Acre) and Peru (Departments: Cusco, Huánuco, Junín, Loreto, Madre de Dios, Pasco, San Martín, Ucayali).

**Comment:** Schulte, 1999, Pfeilgiftfrösche: 88-110, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 514, also provided an account. Recorded in Bolivia (as *Dendrobates biolat*) by De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 57, Köhler, 2000, Bonn.Zool. Monogr., 48: 69; and Maldonado-M. and Reichle, 2007, Kempffiana, 3: 13-

17. Schulte, 1999, Pfeilgiftfrösche: 115-121 (*Dendrobates lamasi*), 121-126 (*Dendrobates biolat*), provided accounts. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 466-469 (Ranitomeya biolat), 484-488 (*Ranitomeya lamasi*), provided accounts and placed this species in their *Ranitomeya ventrimaculata* group. Sampaio and Souza, 2009, Herpetol. Rev., 40: 447, provided the first record of *Ranitomeya biolat* for Acre, Brazil. In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 72-75.

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***Ranitomeya summersi* Brown, Twomey, Pepper, and Sanchez-Rodriguez, 2008**

- *Ranitomeya summersi*Brown, Twomey, Pepper, and Sanchez-Rodriguez, 2008, Zootaxa, 1823: 9. Holotype: MUSM 26994, by original designation. Type locality: "near the town of Sauce, San Martin, Peru; 6°43′ S, 76°15′W; 684 m elevation".
- *Dendrobates summersi* — Santos, Coloma, Summers, Caldwell, Ree, and Cannatella, 2009, PLoS Biol., 7(3)e56: 0001-0014, by implication.

**Distribution:** Throughout the central Huallaga Canyon, extending into the southernmost tip of the Cordillera Escalera near Chazuta and to the northwestern edge of the Cordillera Azul; on both sides of the Rio Huallaga, extending from Curiyacu westward to Sauce, where they persist in humid recesses of the rocky stream valleys of this semiarid region, all in San Martin, Peru.

**Comment:** In the *Ranitomeya fantastica* group according to the original publication. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 54-55.

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***Ranitomeya toraro* Brown, Caldwell, Twomey, Melo-Sampaio, and Souza, 2011**

- *Ranitomeya toraro* Brown, Caldwell, Twomey, Melo-Sampaio, and Souza *In*Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 42. Holotype: MPEG 13838, by original designation. Type locality: "Brazil, Amazonas state, municipality of Castanho, at km 12 on road to Autazes (ca. 40 km south of Manaus), 40 m elevation, 3° 30′ 52.24″ S, 59° 49′ 51.13" W"".

**Distribution:** Southwestern Brazil in northern Rondonia and the southern half of Acre, and the southeastern tip of Colombia; almost surely in adjacent Peru.

**Comment:** In the *Ranitomeya defleri* species according to the original publication.

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***Ranitomeya uakarii* (Brown, Schulte, and Summers, 2006)**

- *Dendrobates uakarii*Brown, Schulte, and Summers, 2006, Zootaxa, 1152: 47. Holotype: MUSM 23246, by original designation. Type locality: "upstream Quebrada Blanco in Tamshiyacu-Tahuayo Reserve, Departamento Loreto, Peru (4° 11′ 21.88″ S, 73° 6′ 15.66″ W). Elevation 140 m".
- *Ranitomeya uakarii* — Frost, 2007, Amph. Spec. World, vers. 5.0: . new combination; by implication of results published by Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299.

**Distribution:** Amazonian rainforests of Brazil (States: Acre, Amazonas), possibly into Bolivia (Department: Pando), Colombia (Departments: Amazonas, Caquetá), Guyana (Potaro-Siparuni) and Peru (Departments: Huánuco, Loreto, Madre de Dios and possibly Ucayali),

**Comment:** Diagnosed from *Ranitomeya duellmani* in the original publication by call and molecular characters. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 494-496, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 56-57.

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***Ranitomeya vanzolinii* (Myers, 1982)**

- *Dendrobates vanzolinii*Myers, 1982, Am. Mus. Novit., 2721: 9. Holotype: MZUSP 51597, by original designation. Type locality: "at Pôrto Walter on the Rio Juruá, Territory [state] of Acre, Brazil (8° 16′ S, 72° 46′ W)".
- *Ranitomeya vanzolinii* — Bauer, 1988, Het Paludarium, Netherlands, November: 6. Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Amazonian rainforests of Brazil (Acre and possibly Amazonas) and Peru (Cusco, Pasco, Ucayali), below 1300 m elevation, possibly to Bolivia.

**Comment:** De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 57, and Köhler, 2000, Bonn. Zool. Monogr., 48: 69, consider this species possibly to occur in Bolivia. Schulte, 1999, Pfeilgiftfrösche: 110-115, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 497-499, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 75-78.

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***Ranitomeya variabilis* (Zimmermann and Zimmermann, 1988)**

- *Dendrobates variabilis*Zimmermann and Zimmermann, 1988, Salamandra, 24: 132. Holotype: SMNS 7054, by original designation. Type locality: "Departamento San Martin, Peru"; restricted to "Km 27 of the road from Tarapoto to Yurimaguas", Peru, by Henle, 1992, Bonn. Zool. Beitr., 43: 79-129.
- *Ranitomeya variabilis* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Amazonian rainforests of Brazil (Amazonas), Colombia (Amazonas, Caquetá, Putumayo [tentative], Vaupés), Ecuador (Morona-Santiago, Napo, Orellana, Pastaza, Sucumbíos) and Peru (Amazonas, Loreto, San Martín, Ucayali).

**Comment:** Removed from the synonymy of *Ranitomeya ventrimaculata* (as *Dendrobates*) by Schulte, 1999, Pfeilgiftfrösche: 39, and Symula, Schulte, and Summers, 2001, Proc. R. Soc. London, Ser. B, Biol. Sci., 268: 2415-2421, where it had been placed by Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1. Schulte, 1999, Pfeilgiftfrösche: 39-49, provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 500-503, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya variabilis* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 78, and who provided an account on page 85-89.

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***Ranitomeya ventrimaculata* (Shreve, 1935)**

- *Dendrobates minutus ventrimaculatus*Shreve, 1935, Occas. Pap. Boston Soc. Nat. Hist., 8: 213. Holotype: MCZ 19734, by original designation. Type locality: "Sarayacu, Ecuador".

- *Dendrobates ventrimaculatus*— Daly, Myers, and Whittaker, 1987, Toxicon, 25: 1025. Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1.
- *Dendrobates duellmani*Schulte, 1999, Pfeilgiftfrösche: 69. Holotype: KU 221832, by original designation. Type locality: "San Jacinto, 2 km, nahe der ekuadadorianischen Grenze, Loreto, Peru". Synonymy by Brown, Twomey, and Poelman IN Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 59.
- *Ranitomeya ventrimaculata*— Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.
- *Ranitomeya duelllmani* — Grant, Frost, Caldwell, Gagliardo, Haddad, Kok, Means, Noonan, Schargel, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 299: 171.

**Distribution:** Amazon drainage of Colombia, Ecuador, Peru, and Brazil, from the foothills of the Andes east to the mouth of the Amazon and north into French Guiana.

**Comment:** Caldwell and Myers, 1990, Am. Mus. Novit., 2988: 1-21, removed this species from the synonym of *Ranitomeya quinquevittata* (as *Dendrobates*), where it had been placed by Silverstone, 1975, Sci. Bull. Nat. Hist. Mus. Los Angeles Co., 21: 33. Lescure and Marty, 2000, Collect. Patrimoines Nat., Paris, 45: 92-93, provided a brief account and photo. Symula, Schulte, and Summers, 2001, Proc. R. Soc. London, Ser. B, Biol. Sci., 268: 2415-2421, suggested that *Ranitomeya ventrimaculata* is composed of two cryptic species, one of which is more closely related to *Ranitomeya variabilis*. Schulte, 1999, Pfeilgiftfrösche: 129-134 (*Dendrobates ventrimaculatus*), 470-471 (*Dendrobates duellmani*), provided an account. Lötters, Jungfer, Henkel, and Schmidt, 2007, Poison Frogs: 504-511, provided an account and placed this species in their *Ranitomeya ventrimaculata* group. In the *Ranitomeya reticulata* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 47, and who provided an account on page 59-61.

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***Ranitomeya yavaricola* Pérez-Peña, Chávez, Twomey, and Brown, 2010**

- Ranitomeya yavaricolaPérez-Peña, Chávez, Twomey, and Brown, 2010, Zootaxa, 2439: 4. Holotype: MZUNAP 01-520, by original. Type locality: "nearby Lago Preto, 17 km W of Estiron de Ecuador, Provincia Ramon Castilla, Departamento Loreto, Peru; 4° 27′ 35.0″ S, 71° 45′ 3.5″ W, 120 m elevation; . . . . in leaf litter within *terra firme* forest".

**Distribution:** Currently known only in a small area in the vicinity of the type locality, but likely to occur in the area between hye Ucayali, Amazon, Yavai, and Blanco Rivers, in the Departamento de Loreto, Peru, possibly into adjacent Brazil.

**Comment:** In the *Ranitomeya vanzolinii* species group of Brown, Twomey, Amézquita, Souza, Caldwell, Lötters, von May, Melo-Sampaio, Mejía-Vargas, Pérez-Peña, Pepper, Poelman, Sanchez-Rodriguez, and Summers, 2011, Zootaxa, 3083: 61, and who provided an account on page 78.

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# DICROGLOSSIDAE

## Genus: *Euphlyctis* Fitzinger, 1843

***Euphlyctis hexadactylus* (Lesson, 1834)**

- *Rana hexadactyla*Lesson, 1834, *in* Bélanger (ed.), Voy. Indes-Orientales N. Eur. Caucase Georgie Perse, Zool.: 331. Type(s): Not stated; presumably originally in MNHNP. Type locality: "Pondichéry"; Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 37, gives data for a paratype (MNHNP 4363) as "Bengale" although this is not mentioned in the original publication.
- *Dactylethra bengalensis*Duméril and Bibron, 1841, Erp. Gen., 8: 339. Name attributed incorrectly to Lesson, 1834, *in* Bélanger (ed.), Voy. Indes-Orientales N. Eur. Caucase Georgie

Perse, Zool.: 331 (who used *Bufo bengalensis* Daudin in a different sense). Synonymy by Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 17.
- *Rana cutipora*Duméril and Bibron, 1841, Erp. Gen., 8: 338. Substitute name for *Rana hexadactyla* Lesson, 1834.
- *Rana saparoua*Duméril and Bibron, 1841, Erp. Gen., 8: 338. Substitute name for *Rana hexadactyla* Lesson, 1834.
- *Rana robusta*Blyth, 1855 "1854", J. Asiat. Soc. Bengal, 23: 298. Syntypes: Not stated; ZSIC 9123-24 according to Sclater, 1892, List Batr. Indian Mus.: 2. Type locality: "Ceylon". Synonymy with *Rana cutipora* by Blyth, 1856 "1855", J. Asiat. Soc. Bengal, 24: 720. Synonymy with *Rana hexadactyla* by Günther, 1864, Rept. Brit. India: 405; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 17.
- *Phrynoderma cutiporum* — Fitzinger, 1861 "1860", Sitzungsber. Akad. Wiss. Wien, Phys. Math. Naturwiss. Kl., 42: 414.
- *Rana (Rana) hexadactyla* — Boulenger, 1920, Rec. Indian Mus., 20: 5. Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 37.
- *Rana (Dicroglossus) hexadactyla* — Dubois, 1974, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 213: 341-411.
- *Rana (Euphlyctis) hexadactyla* — Dubois, 1981, Monit. Zool. Ital., N.S., Suppl., 15: 240.
- *Euphlyctis hexadactyla* — Poynton and Broadley, 1985, Ann. Natal Mus., 27: 124, by implication.
- *Occidozyga (Euphlyctis) hexadactyla* — Dubois, 1987 "1986", Alytes, 5: 59.
- *Euphlyctis hexadactylus* — Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 315.

**Distribution:** Coast plain of India, from Tripura through Bangladesh to Tamil Nadu and Manipur, northeastern India; Sialkot, Punjab, Pakistan; Sri Lanka.

**Comment:** See accounts by Boulenger, 1920, Rec. Indian Mus., 20: 12; Mondal, 1970, Sci. Cult., Calcutta, 36: 138-143; Kirtisinghe, 1957, Amph. Ceylon: 26-29, and Dutta and Manamendra-Arachchi, 1996, Amph. Fauna Sri Lanka: 116-119. Chanda, 2002, Handb. Indian Amph.: 114, provided a brief account (as *Rana hexadactyla*). Schleich, Anders, and Kästle, 2002, *in* Schleich and Kästle (eds.), Amph. Rept. Nepal: 79, rejected all records of *Euphlyctis hexadactylus* from Nepal as likely based on misidentified *Euphlyctis cyanophlyctis*. See brief accounts by Shrestha, 2001, Herpetol. Nepal: 81-83, and Sarkar, Biswas, and Ray, 1992, State Fauna Ser., 3: 84-85. Dutta, 1997, Amph. India Sri Lanka: 116-117, provided the distribution in India, a record for Pakistan, a partial bibliography, and a systematic comment. Daniels, 2005, Amph. Peninsular India: 182-185, provided a brief account for peninsular India. Ningombam and Bordoloi, 2007, Zoos' Print J., 22: 2688-2690, provided a record for Manipur, northeastern India. Nair and Kumar, 2005, Cobra, Chennai, 60: 18-25, reported on aspects of external variation in a population from Karnataka, India. Sen and Mathew, 2004, Cobra, Chennai, 55: 1-4, discussed the morphological distinctiveness of *Euphlyctis hexadactylus* from *Euphlyctis cyanophlyctis*. Alam, Igawa, Khan, Islam, Kuramoto, Matsui, Kurabayashi, and Sumida, 2008, Mol. Phylogenet. Evol., 48: 515-527, suggested that Sri Lankan and Bangladeshi *Euphlyctis hexadactylus* are not conspecific; and that several unnamed parapatric taxa exist in the Western Ghats of South India; the oldest name for the Sri Lankan population is *Rana robusta* Blyth (DRF). Mathew and Sen, 2010, Pict. Guide Amph. NE India: 29, provided a brief characterization and photographs. Mahony, Hasan, Kabir, Ahmed, and Hossain, 2009, Hamadryad, 34: 80-94, provided the first vouchered records for the species in Bangladesh and discussed the range. de Silva, 2009, Amph. Rep. Sri Lanka Photograph. Guide: 68, provided a brief account and color photograph for Sri Lanka. Bopage, Wewelwala, Krvavac, Jovanovic, Safarek, and Pushpamal, 2011, Salamandra, 47: 173-177, reported the species in lowland forest in the KanneliyaForest of southwestern Sri Lanka. See Shah and Tiwari, 2004, Herpetofauna Nepal: 53, noted the dubious status of old records for Nepal. Hasan, Islam, Khan, Alam, Kurabayashi, Igawa, Kuramoto, and Sumida, 2012, Zool. Sci., Tokyo, 29: 162-172, suggested on the basis of molecular evidence that populations in Bangladesh represent a different cryptic species that the South India (including the type locality) population.

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## Genus: *Hoplobatrachus* Peters, 1863

***Hoplobatrachus tigerinus* (Daudin, 1802)**

- *Rana tigerina*Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: 64. Holotype: Animal figured on pl. 20, of the original; originally in MNHNP, now lost. Type locality: "Bengale", India.
- *Rana tigrina* — Merrem, 1820, Tent. Syst. Amph.: 174; Kelaart, 1853, Prodr. Faunae Zeylan., 1: 192; Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 9. Incorrect subsequent spelling.
- *Rana picta*Gravenhorst, 1829, Delic. Mus. Zool. Vratislav., 1: 39. Type(s): "museo Lampeano", current status unknown. Type locality: Unknown. Synonymy by Duméril and Bibron, 1841, Erp. Gen., 8: 376; Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 10; provisional synonymy by Boulenger, 1920, Rec. Indian Mus., 20: 17. Primary homonym of *Rana picta* Gravenhorst, 1807, if not identical (see record in *incertae sedis* at level of Anura—DRF.)
- R*ana gracilis* var. *pulla*Stoliczka, 1870, J. Asiat. Soc. Bengal, 39: 139. Holotype: ZSIC 3529 according to Sclater, 1892, List Batr. Indian Mus.: 5; lost, according to Dubois, 1984, Alytes, 3: 155. Type locality: "small pool of water at a height of about 2,000 feet on the Penang hill". Preoccupied by *Rana pullus* Smith, 1921. Considered a synonym of *Rana limnocharis* by Boulenger, 1890, Fauna Brit. India, Rept. Batr.: 450, although Sclater, 1892, Proc. Zool. Soc. London, 1892: 344, considered it to be based on a juvenile *Rana tigerina*. Considered a *nomen dubium* by Dubois, 1984, Alytes, 3: 155. Considered *incertae sedis* within *Hoplobatrachus* or *Fejervarya* by Dubois, 1987 "1986", Alytes, 5: 60; without discussion.
- *Rana tigerina* — Barbour, 1912, Mem. Mus. Comp. Zool., 44: 63.
- *Rana (Fejervarya) tigrina* — Bolkay, 1915, Anat. Anz., 48: 175.
- *Rana (Rana) tigrina* — Boulenger, 1920, Rec. Indian Mus., 20: 6.
- *Dicroglossus tigrinus* — Deckert, 1938, Sitzungsber. Ges. Naturforsch. Freunde Berlin, 1938: 138.
- *Rana tigrina tigrina* — Smith, 1940, Rec. Indian Mus., 42: 465-486.
- *Rana tigerina tigerina* — Mertens, 1969, Stuttgart. Beit. Naturkd., 197: 17.
- *Rana (Dicroglossus) tigerina tigerina* — Dubois, 1974, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 213: 341-411.
- *Rana (Euphlyctis) tigerina* — Dubois, 1981, Monit. Zool. Ital., N.S., Suppl., 15: 239, by implication.
- *Euphlyctis tigerina* — Poynton and Broadley, 1985, Ann. Natal Mus., 27: 124, by implication.
- *Limnonectes (Hoplobatrachus) tigerinus* — Dubois, 1987 "1986", Alytes, 5: 59.
- *Tigrina tigrina* — Fei, Ye, and Huang, 1990, Key to Chinese Amph.: 144. Incorrect subsequent spelling of the species name.
- *Hoplobatrachus tigerinus* — Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 315.

**Distribution:** Low to moderate elevations in Nepal, Bhutan, western and central Myanmar through Bangladesh and India to northern Pakistan and south to the Western Ghats; northeastern Afghanistan; introduced on Madagascar.

**Comment:** In the *Hoplobatrachus tigerinus* group of Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 315 (following Dubois, 1987 "1986", Alytes, 5: 60). See also Dubois, 1974, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 3, Zool., 213: 341-411. Zhao and Adler, 1993, Herpetol. China: 148, noted that previous Chinese records of *Hoplobatrachus tigerinus* (as *Rana tigerina*) were based on specimens of *Hoplobatrachus rugulosus* (formerly known as *Rana tigerina rugulosa*). See account by Dutta and Manamendra-Arachchi, 1996, Amph. Fauna Sri Lanka: 99-103. Choudhury, Hussain, Buruah, Saikia, and Sengupta, 2002, Hamadryad, 26: 278, commented on the range in Assam, India. Chanda, 2002, Handb. Indian Amph.: 136-141, provided a brief account (as *Rana tigerina*). Anders, 2002, *in* Schleich and Kästle (eds.), Amph. Rept. Nepal: 234-243, provided an account for the Nepal population. See brief account by Shrestha, 2001, Herpetol. Nepal: 78-79. Andreone, Glaw, Nussbaum, Raxworthy, Vences, and Randrianirina, 2003, J. Nat. Hist., 37: 2119-2149, discussed the occurrence of this species on Nosy Be. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 98, provided a brief account for Madagascar. Sarkar, Biswas, and Ray, 1992, State Fauna Ser., 3: 85-86, provided a brief account for West Bengal, India. Dutta, 1997, Amph. India Sri Lanka: 119-120, provided range in India, comments on misidentifications in the literature, and a partial bibliography. Khan, 2006, Amph. Rept. Pakistan: 60-62, provided an account for Pakistan. Ao, Bordoloi, and Ohler, 2003, Zoos' Print J., 18: 1117-1125, provided a specific locality for Nagaland, northeastern India. Daniels, 2005, Amph. Peninsular India: 188-191, provided an account for peninsular India. Devi and Shamungou, 2006, J. Exp. Zool. India, 9: 317-324, provided a record (as *Limnonectes tigerinus*) for Manipur, northeastern India. Ahmed, Das, and Dutta, 2009, Amph. Rept. NE India: 38, provided a brief account for northeastern India. Mathew and Sen, 2010, Pict. Guide Amph. NE India: 35-36, provided a brief characterization and photographs. Mahony, Hasan, Kabir, Ahmed, and Hossain, 2009,

Hamadryad, 34: 80-94. See Shah and Tiwari, 2004, Herpetofauna Nepal: 55, for brief account for Nepal. Hasan, Islam, Khan, Alam, Kurabayashi, Igawa, Kuramoto, and Sumida, 2012, Zool. Sci., Tokyo, 29: 162-172, using molecular techniques reported genetic distances as high as 6% among samples within Bangladesh, suggesting cryptic species diversity (including what is now *Hoplobatrachus litoralis*). The recognition of two species from the region of the imprecise type locality (Bengale) will likely require recognition of a neotype. Masroor, 2012, Contr. Herpetol. N. Pakistan: 62–64, provided an account for northern Pakistan.

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## Genus: *Limnonectes* Fitzinger, 1843

### *Limnonectes macrodon* (Duméril and Bibron, 1841)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Rana macrodon*Tschudi, 1838, Classif. Batr.: 83. *Nomen nudum* attributed to Kuhl (label name).
- *Rana macrodon*Duméril and Bibron, 1841, Erp. Gen., 8: 382. Syntypes: MNHNP (6 specimens) of which the Celebes specimen Barbour, 1912, Mem. Mus. Comp. Zool., 44: 63, suggested was likely a specimen of *Rana modesta*; MNHNP 4465 designated lectotype by Kiew, 1978, Malayan Nat. J., 31: 220. Type locality: "Java" and "Célèbes", Indonesia; restricted to Java by lectotype designation.
- *Rana (Rana) macrodon* — Boulenger, 1920, Rec. Indian Mus., 20: 6. Van Kampen, 1923, Amph. Indo-Austral. Arch.: 174.
- *Rana macrodon macrodon* — Inger, 1954, Fieldiana, Zool., 33: 276.
- *Rana (Euphlyctis) macrodon* — Dubois, 1981, Monit. Zool. Ital., N.S., Suppl., 15: 239, by implication.
- *Euphlyctis macrodon* — Poynton and Broadley, 1985, Ann. Natal Mus., 27: 124, by implication.
- *Limnonectes (Limnonectes) macrodon* — Dubois, 1987 "1986", Alytes, 5: 63.

**Distribution:** Java and eastern Sumatra (Indonesia). (See comment)

**Comment:** See accounts by Boulenger, 1920, Rec. Indian Mus., 20: 40; Taylor, 1962, Univ. Kansas Sci. Bull., 43: 383-386; Inger, 1966, Fieldiana, Zool., 52: 208-212; Bourret, 1942, Batr. Indochine: 255-260; and Kiew, 1978, Malayan Nat. J., 31: 219-229. See comment under *Rana blythii*. Possibly two species (? including *Rana malesiana*) under this name in Malaya, according to Berry, 1975, Amph. Fauna Peninsular Malaysia: 77-78. See *Rana malesiana*, with which this species has been confused. Bornean records are referrable to *Rana ingeri*. The record for Sikkim by Chanda, 1987 "1986", J. Bengal Nat. Hist. Soc., N.S.,, 5: 145, is almost certainly in error (Dutta, 1997, Amph. India Sri Lanka: 173). Devi and Shamungou, 2006, J. Exp. Zool. India, 9: 317-324, provided a record for Manipur, northeastern India, which is here considered problematic, although it was accepted at face value by Dinesh, Radhakrishnan, Gururaja, and Bhatta, 2009, Rec. Zool. Surv. India, Occas. Pap., 302: 28. See Iskandar, 1998, Amph. Java Bali: 75-76, for brief account for Javan population. See identification table by Manthey and Grossmann, 1997, Amph. Rept. Südostasiens: 84-86, to compare this species with other ranids of the Sunda Shelf region. In the *Limnonectes (Limnonectes) grunniens* group of Dubois, 1987 "1986", Alytes, 5: 63.Nutphund, 2001, Amph. Thailand: 105, provided a brief characterization and photograph (which Ohler, 2003, Alytes, 21: 101, regarded as of *Rana kuhlii*). Menzies, 2006, Frogs New Guinea & Solomon Is.: 66, discussed the problematic nature of the New Guinea record. See map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 483, who noted that records from mainland Southeast Asia are referrable to *Limnonectes blythii*.

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# HYLIDAE

## Genus: *Agalychnis* Cope, 1864

***Agalychnis annae* (Duellman, 1963)**

- *Phyllomedusa annae*Duellman, 1963, Rev. Biol. Tropical, 11: 1. Holotype: KU 64020, by original designation. Type locality: "Tapantí, [Cantón de Paraíso,] Cartago Province, Costa Rica, 1200 meters". Savage, 1974, Rev. Biol.Tropical, 22: 109, commented on the type locality.
- *Agalychnis annae* — Duellman, 1968, Univ. Kansas Publ. Mus. Nat. Hist., 18: 4.

**Distribution:** Northern Cordillera de Talamanca, Cordillera de Tilarán and Cordillera Central of Costa Rica, 780–1650 m elevation.

**Comment:** See brief account by Savage and Heyer, 1969, Rev. Biol. Tropical, 16: 49–50, and account by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 117–120, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 840. See account by Savage, 2002, Amph. Rept. Costa Rica: 278–279. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 238. In the *Agalychis callidryas* group of Faivovich, Haddad, Baêta, Jungfer, Álvares, Brandão, Sheil, Barrientos, Barrio-Amorós, Cruz, and Wheeler, 2010, Cladistics, 26: 259. Köhler, 2011, Amph. Cent. Am.: 198–201, provided a key to the species of Central America and provided a map and photograph of the species, including this one.

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***Agalychnis callidryas* (Cope, 1862)**

- *Hyla callidryas*Cope, 1862, Proc. Acad. Nat. Sci. Philadelphia, 14: 359. Holotype: ANSP 2091, according to Malnate, 1971, Proc. Acad. Nat. Sci. Philadelphia, 123: 349. Type locality: "Darien", Panama; corrected to Córdoba, Veracruz, Mexico, by Smith and Taylor, 1950, Univ. Kansas Sci. Bull., 33: 347; this correction considered unjustified by Dunn and Stuart, 1951, Copeia, 1951: 57, and Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 102.
- *Agalychnis callidryas* — Cope, 1864, Proc. Acad. Nat. Sci. Philadelphia, 16: 181. Cope, 1865, Nat. Hist. Rev., N.S., 5: 110.
- *Agalychnis helenae*Cope, 1885 "1884", Proc. Am. Philos. Soc., 22: 182. Holotype: USNM 13737 according to Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 145; Cochran, 1961, Bull. U.S. Natl. Mus., 220: 29. Type locality: "Nicaragua". Synonymy by Savage and Heyer, 1967, Beitr. Neotrop. Fauna, 5: 123.
- *Phyllomedusa helenae* — Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 145. Nieden, 1923, Das Tierreich, 46: 334.
- *Phyllomedusa (Agalychnis) callidryas* — Lutz, 1950, Mem. Oswaldo Cruz, Rio de Janeiro, 48: 601, 619.
- *Phyllomedusa (Agalychnis) helenae* — Lutz, 1950, Mem. Oswaldo Cruz, Rio de Janeiro, 48: 601, 619.
- *Agalychnis callidryas callidryas* — Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 33.
- *Agalychnis callidryas taylori*Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 34. Holotype: EHT 1279; now FMNH 100166, by museum records. Type locality: "Tierra Colorada, Veracruz, Mexico". Status as subspecies rejected by Savage and Heyer, 1967, Beitr. Neotrop. Fauna, 5: 123.
- *Phyllomedusa callidryas* — Savage and Heyer, 1967, Beitr. Neotrop. Fauna, 5: 123.
- *Agalychnis callidryas* — Duellman, 1968, Univ. Kansas Publ. Mus. Nat. Hist., 18: 4.

**Distribution:** Atlantic lowlands of Veracruz and Oaxaca, Mexico, southeastward on the Caribbean lowlands to central Panama; Pacific lowlands of southern Costa Rica and eastern Panama to the Chocó of Colombia, sea level to 1325 m elevation.

**Comment:** Savage and Heyer, 1967, Beitr. Neotrop. Fauna, 5: 111–131, analyzed intraspecific variation. See account by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 102–112, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 839–840. See also accounts by Lee, 1996, Amph. Rept. Yucatan Peninsula: 84–86; Campbell, 1998, Amph. Rept. N. Guatemala Yucatan Belize: 73–75, and Lee, 2000, Field Guide Amph. Rept. Maya World: 89-92. See accounts by Savage, 2002, Amph. Rept. Costa Rica: 281–283, and McCranie and Wilson, 2002, Amph. Honduras: 231–236. McCranie, 2007, Herpetol. Rev., 38: 37, detailed the departmental distribution in Honduras. Robertson, Duryea,

and Zamudio, 2009, Mol. Ecol., 18: 1375–1395, discussed phylogeographic patterns in Costa Rica. See comments by Sunyer, Páiz, Dehling, and Köhler, 2009, Herpetol. Notes, 2: 189–202, regarding Nicaraguan populations. In the *Agalychis callidryas* group of Faivovich, Haddad, Baêta, Jungfer, Álvares, Brandão, Sheil, Barrientos, Barrio-Amorós, Cruz, and Wheeler, 2010, Cladistics, 26: 259. Previous records from the Magdalena River Valley of Colombia are now referred to Agalychnis terranova; see Rivera-Correa, Duarte-Cubides, Rueda-Almonacid, and Daza-R., 2013, Zootaxa, 3636: 85–100. Köhler, 2011, Amph. Cent. Am.: 198–201, provided a key to the species of Central America and provided a map and photograph of the species, including this one.. Sunyer, Martínez-Fonseca, Salazar-Saavedra, Galindo-Uribe, and Obando, 2014, Mesoam. Herpetol., 1: 168, provided records for the departments of Carozo and Estelí, Nicaragua.

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***Agalychnis moreletii* (Duméril, 1853)**

- *Hyla moreletii*Duméril, 1853, Ann. Sci. Nat., Paris, Ser. 3, 19: 169. Syntypes: MNHNP 428 (parchment labeled 767) (2 specimens), according to Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 146; Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 25. Type locality: "Vera-Paz", Guatemala; corrected to "Cobán in [Departamento Alta] Vera Paz, Guatemala" by Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 146, and this followed by Smith and Taylor, 1950, Univ. Kansas Sci. Bull., 33: 317.
- *Hyla holochlora*Salvin, 1860, Proc. Zool. Soc. London, 1860: 460. Syntypes: BMNH (3 specimens), including BMNH 1947.2.24.23 (formerly 64.1.26.142), considered holotype (a lectotype designation by implication) by Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 147; Condit, 1964, J. Ohio Herpetol. Soc., 4: 91. Type locality: "Coban", Departamento de Alta Verapaz, Guatemala. Synonymy by Keferstein, 1867, Nachr. Ges. Wiss. Göttingen, 18: 356; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 442.
- *Agalychnis holochlora* — Cope, 1865, Nat. Hist. Rev., N.S., 5: 110.
- *Agalychnis moreletii* — Cope, 1865, Nat. Hist. Rev., N.S., 5: 110; Lutz, 1950, Mem. Oswaldo Cruz, Rio de Janeiro, 48: 619.
- *Hyla Morelettii* — Keferstein, 1868, Arch. Naturgesch., 34: 297. Incorrect subsequent spelling.
- *Phyllomedusa moreletii* — Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 146.
- *Phyllomedusa (Agalychnis) moreletii* — Lutz, 1950, Mem. Oswaldo Cruz, Rio de Janeiro, 48: 601, 619.
- *Agalychnis moreletti* — Liner and Casas-Andreu, 2008, Herpetol. Circ., 38: 7. Incorrect subsequent spelling.

**Distribution:** In disjunct populations from on both Atlantic and Pacific slopes from Veracruz, adjacent Puebla, and Guerrero through Chiapas, Mexico, to the MayaMountains of Belize, Guatemala, northwestern Honduras, and El Salvador, 200 to 2130 m elevation.

**Comment:** See account by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 112–116, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 840. See also accounts by Lee, 1996, Amph. Rept. Yucatan Peninsula: 86-87; Campbell, 1998, Amph. Rept. N. Guatemala Yucatan Belize: 75–76, Lee, 2000, Field Guide Amph. Rept. Maya World: 92–93; and McCranie and Wilson, 2002, Amph. Honduras: 236–239. Canseco-Márquez, Gutiérrez-Mayén, and Salazar-Arenas, 2000, Herpetol. Rev., 31: 259, provided the first report for Puebla. Köhler, Vesely, and Greenbaum, 2005 "2006", Amph. Rept. El Salvador: 35–37, provided an account (for El Salvador) and a color photograph. McCranie, 2007, Herpetol. Rev., 38: 37, detailed the departmental distribution in Honduras. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 239. In the *Agalychis callidryas* group of Faivovich, Haddad, Baêta, Jungfer, Álvares, Brandão, Sheil, Barrientos, Barrio-Amorós, Cruz, and Wheeler, 2010, Cladistics, 26: 259. Köhler, 2011, Amph. Cent. Am.: 198–201, provided a key to the species of Central America and provided a map and photograph of the species, including this one.

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***Agalychnis saltator* Taylor, 1955**

- *Agalychnis saltator*Taylor, 1955, Univ. Kansas Sci. Bull., 37: 527. Holotype: KU 35615, by original designation. Type locality: "4 km NNE of Tilarán [= Finca San Bosco, Cantón de

Tilarán], [Provincia] Guanacaste, Costa Rica". Savage, 1974, Rev. Biol. Tropical, 22: 104, commented on the type locality.
- *Phyllomedusa saltator* — Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 36.

**Distribution:** Caribbean lowlands of northeastern Honduras, Nicaragua, to east-central Costa Rica, 15–1300 m elevation.

**Comment:** See account by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 99–102, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 839. McCranie and Wilson, 2002, Amph. Honduras: 239–241. McCranie, Wilson, and Townsend, 2002, Herpetol. Rev., 33: 316, provided an additional record for Honduras. McCranie, 2007, Herpetol. Rev., 38: 37, detailed the departmental distribution in Honduras. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 615. In the *Agalychis callidryas* group of Faivovich, Haddad, Baêta, Jungfer, Álvares, Brandão, Sheil, Barrientos, Barrio-Amorós, Cruz, and Wheeler, 2010, Cladistics, 26: 259. Travers, Townsend, Sunyer, Obando, Wilson, and Nickerson, 2011, Herpetol. Rev., 42: 399, noted a third locality in Nicaragua (Jinotega). Köhler, 2011, Amph. Cent. Am.: 198–201, provided a key to the species of Central America and provided a map and photograph of the species, including this one.

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***Agalychnis spurrelli* Boulenger, 1913**

- *Agalychnis spurrelli*Boulenger, 1913, Proc. Zool. Soc. London, 1913: 1024. Syntypes: including BMNH 1947.2.24.24-25 (formerly 1913.11.12.129-130) according to Condit, 1964, J. Ohio Herpetol. Soc., 4: 86, who also noted that 4 specimens were mentioned in the original publication). Type locality: "Peña Lisa, Condoto, altitude 300 feet", Provincia Chocó, Colombia.
- *Phyllomedusa spurrelli* — Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 39.
- *Phyllomedusa litodryas*Duellman and Trueb, 1967, Copeia, 1967: 125. Holotype: KU 96149, by original designation. Type locality: "1 km west-southwest of the junction of the Río Mono and the Río Tuira, DariénProvince, Panamá, elevation 130 m". Synonymy by Ortega-Andrade, 2008, Pap. Avulsos Zool., São Paulo, 48: 105.
- *Agalychnis litodryas* — Duellman, 1968, Univ. Kansas Publ. Mus. Nat. Hist., 18: 4.

**Distribution:** Central western lowlands of Costa Rica to the Pacific lowlands of Colombia (Valle del Cauca and Chocó) and adjacent Ecuador, 70–1000 m elevation.

**Comment:** See account by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 124–128, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 842–843. See account by Savage, 2002, Amph. Rept. Costa Rica: 285-286. See account (as *Agalychnis litodryas*) by Duellman, 1970, Monogr. Mus. Nat. Hist. Univ. Kansas: 128, and note by Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 840 (as *Agalychnis litodryas*). Ortega-Andrade, 2008, Pap. Avulsos Zool., São Paulo, 48: 103–117, reported on variation and distribution. See photograph, map, description of geographic range and habitat, and conservation status of nominal *Agalychnis litodryas* in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 239. Vega and Robertson, 2009, Herpetol. Rev., 40: 361, provided a record for west-central Costa Rica and commented on the range. In the *Agalychis callidryas* group of Faivovich, Haddad, Baêta, Jungfer, Álvares, Brandão, Sheil, Barrientos, Barrio-Amorós, Cruz, and Wheeler, 2010, Cladistics, 26: 259. Köhler, 2011, Amph. Cent. Am.: 198–201, provided a key to the species of Central America and provided a map and photograph of the species, including this one.

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## Genus: *Phyllomedusa* Wagler, 1830

***Phyllomedusa sauvagii* Boulenger, 1882**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Phyllomedusa sauvagii*Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 429. Syntypes: BMNH 1947. 2. 25. 83-84 (formerly 81.7.2.3 and 1937.7.29.43) according to Condit, 1964, J. Ohio Herpetol. Soc., 4: 98. Type locality: "Buenos Ayres. . . . OranSalta", Argentina.
- *Phyllomedusa Rickettsii*Günther, 1897, Ann. Mag. Nat. Hist., Ser. 6, 20: 365. Holotype: BMNH 1898. 11. 24. 6. Type locality: "Santa Fé", Argentina. Synonymy by Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 54.
- *Phyllomedusa rickettsii* — Nieden, 1923, Das Tierreich, 46: 340.
- *Phyllomedusa sauvagii rickettsii* — Cei, 1956, Invest. Zool. Chilen., 3: 56.
- *Phyllomedusa sauvagii sauvagii* — Cei, 1956, Invest. Zool. Chilen., 3: 56.
- *Phyllomedusa sauvagei* — Funkhouser, 1957, Occas. Pap. Nat. Hist. Mus. Stanford Univ., 5: 54. Incorrect subsequent spelling.
- *Pithecopus sauvagii* — Lutz, 1966, Copeia, 1966: 236.

**Distribution:** The Chacoan region of eastern Bolivia, northern Paraguay, Mato Grosso do Sul (Brazil), and northern Argentina.

**Comment:** See account by Cei, 1980, Monit. Zool. Ital., N.S., Monogr., 2: 426-434. Cabrera, 1990, Herpetol. Rev., 21: 38, provided the first record for San Luis Province, Argentina. In the *Phyllomedusa tarsius* group of Faivovich, Haddad, Garcia, Frost, Campbell, and Wheeler, 2005, Bull. Am. Mus. Nat. Hist., 294: 117-118. Paiva, Nascimento, Silva, Bernarde, and Ananias, 2010, Ital. J. Zool., 77: 116-121, noted that this species lacks the karyological synapomorphy they hypothesized for the *Phyllomedusa tarsius* group. Sanabria, Quiroga, and Acosta, 2005, Herpetol. Rev., 36: 333, provided a new record for San JuanProvince in Argentina and briefly discussed the range of this species in Argentina. Brusquetti and Lavilla, 2006, Cuad. Herpetol., 20: 12, briefly discussed range in Paraguay.

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# LEPTODACTYLIDAE

## Genus: *Leptodactylus* Fitzinger, 1826

### *Leptodactylus laticeps* Boulenger, 1918

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Leptodactylus laticeps*Boulenger, 1918, Ann. Mag. Nat. Hist., Ser. 9, 2: 431. Holotype: BMNH 98.11.24.7, according to de Sá, Grant, Camargo, Heyer, Ponssa, and Stanley, 2014, S. Am. J. Herpetol., 9(Spec. Issue 1): 37. Type locality: "Santa Fé, Argentina".
- *Leptodactylus (Pachypus) laticeps* — Vellard, 1947, Acta Zool. Lilloana, 4: 464.

**Distribution:** Gran Chaco of Paraguay, Bolivia, and Argentina.

**Comment:** In the *Leptodactylus pentadactylus* group of Heyer, 1972, Contrib. Sci. Nat. Hist. Mus. Los Angeles Co., 231: 1-8, and Heyer, 1979, Smithson. Contrib. Zool., 301: 1-43. See account by Cei, 1980, Monit. Zool. Ital., N.S., Monogr., 2: 355-357. De la Riva, Köhler, Lötters, and Reichle, 2000, Rev. Esp. Herpetol., 14: 41, noted that no voucher specimen exists for Bolivia, although it is expected in the Chaco. Brusquetti and Lavilla, 2006, Cuad. Herpetol., 20: 14, briefly discussed the range in Paraguay. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 622. In the *Leptodactylus fuscus* species group of de Sá, Grant, Camargo, Heyer, Ponssa, and Stanley, 2014, S. Am. J. Herpetol., 9(Spec. Issue 1): 1–123, and who provided a summary of relevant literature on pp. 37–38.

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# MANTELLIDAE

## Genus: *Mantella* Boulenger, 1882

***Mantella aurantiaca* Mocquard, 1900**

- *Mantella aurantiaca*Mocquard, 1900, Bull. Soc. Philomath., Paris, Ser. 9, 2: 110. alsoMocquard, 1900, Bull. Mus. Natl. Hist. Nat. Paris, 6: 348. Syntypes: MNHNP 1899.412-413, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 33. MNHNP 1899.412 designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 40. Type locality: "forêt entre Beforana et Moramanga", Madagascar.
- *Mantella aurantiaca aurantiaca* — Staniszewski, 1996, Reptilian, 4: 22.
- *Mantella aurantiaca rubra*Staniszewski, 1996, Reptilian, 4: 24. Type(s): Not formally designated although several specimens involved; ZFMK 68868 designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 40. Type locality: "forests of Anosibe An'Ala", Madagascar; considered to be unknown by Vences, Glaw, and Böhme, 1999, Alytes, 17: 40, who rejected the validity of the taxon.

**Distribution:** Eastern slopes of central Madagascar in upland wet swamp forests in the Torotorofotsy area and the AndromenaForest at the SamariranaRiver (920-960 m elevation).

**Comment:** See account by Blommers-Schlösser, 1979, Beaufortia, 29: 61. In the *Mantella aurantiaca* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. See account by Staniszewski, 2001, Mantellas: 148-153. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 198-199, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 426, who noted that this taxon may represent more than one species. Bora, Dolch, Jenkins, Jovanovic, Rabemananjara, Randrianirina, Rafanomezantsoa, Raharivololoniaina, Ramilijaona, Raminosoa, Randrianavelona, Raselimanana, Razafimahatratra, Razafindraibe, and Vences, 2008, Herpetol. Notes, 1: 39-48, detailed the range and provided a map. Randrianavelona, Rakotonoely, Ratsimbazafy, and Jenkins, 2010, Afr. J. Herpetol., 59: 65-78, discussed range and conservation biology.

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***Mantella baroni* Boulenger, 1888**

- *Mantella baroni*Boulenger, 1888, Ann. Mag. Nat. Hist., Ser. 6, 1: 106. Holotype: BMNH 1947.2.7.19 (formerly 84.12.22.50) according to Vences, Glaw, and Böhme, 1999, Alytes, 17: 23. Type locality: "Madagascar".
- *Phrynomantis maculatus*Thominot, 1889, Bull. Soc. Philomath., Paris, Ser. 8, 1: 27. Syntypes: MNHNP (4 specimens) according to the original publication; MNHNP 6807a-d (4 specimens) according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 33. MNHNP 1991.2854 (formerly 6807a) designated lectotype by Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403. Type locality: "l'ile de la Réunion"; rendered as "Nosy Komba (dubious)" by Glaw and Vences, 1992, Fieldguide Amph. Rept. Madagascar: 279. Synonymy (with *Mantella cowanii*) by Guibé, 1964, Senckenb. Biol., 45: 259-264; Guibé, 1978, Bonn. Zool. Monogr., 11: 83. Synonymy with *Mantella baroni* as by Boulenger, 1890, Zool. Rec., 26: 21; (with *Mantella baroni* as *Mantella madagascariensis*) Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403.

**Distribution:** East-central Madagascar.

**Comment;** See Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, for discussion of confusion surrounding type allocation and nomenclature. Removed from the synonymy of *Mantella cowanii* by Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403 (as *Mantella madagascariensis*, a *nomen dubium*) where it had been placed by Methuen and Hewitt, 1913, Ann. Transvaal Mus., 4: 57. In the *Mantella cowani* group according to Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 154-158, provided an account. Rabemananjara, Chiari, Ramilijaona, and Vences, 2007, Frontiers Zool., 4: 1-10, suggested on the basis of molecular evidence that *Mantella baroni* is just a northern color morph of *Mantella cowanii*, but hesitated to formalize the

taxonomic change. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 194-195, provided an account.

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***Mantella bernhardi* Vences, Glaw, Peyrieras, Böhme, and Busse, 1994**

- *Mantella bernhardi*Vences, Glaw, Peyrieras, Böhme, and Busse, 1994, Aquar. Terrar. Z., 47: 391. Holotype: ZFMK 57164, by original designation. Type locality: "Regenwald nahe Tolongoina, Provinz Fianarantsoa", Madagascar.

**Distribution:** East-southeastern Madagascar from Ranomafana south to near Manambondro, 60-629 m elevation.

**Comment:** Similar to the *Mantella betsileo* according to the original publication. The sole member of the *Mantella bernhardi* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2.. See Staniszewski, 2001, Mantellas: 159-163. Rabemananjara, Bora, Cadle, Andreone, Rajeriarison, Talata, Glaw, Vences, and Vieites, 2005, Oryx, 39: 339-342, provided new records and discussed the species' distribution. Vieites, Chiari, Vences, Andreone, Rabemananjara, Bora, Nieto-Roman, and Meyer, 2006, Mol. Ecol., 15: 1617-1625, noted two molecularly distinctive and allopatric populations. Rabemananjara, Bora, Cadle, Andreone, Rajeriarison, Talata, Glaw, Vences, and Vieites, 2005, Oryx, 39: 470-474, discussed status and provided records. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 192-193, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 427.

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***Mantella betsileo* (Grandidier, 1872)**

- Dendrobates betsileoGrandidier, 1872, Ann. Sci. Nat., Paris, Ser. 5, 15: 11. Syntypes: MNHNP 1895.278-279, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 33. MNHNP 1895.279 designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 11. Type locality: "Pays des Betsileos", Madagascar. See Vences, Glaw, and Böhme, 1999, Alytes, 17: 12, and Glaw and Vences, 2006, Organisms Divers. Evol., 6: 250, for discussion of type locality, which is apparently in error.
- Mantella betsileo — Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 141.

**Distribution:** Western and southwestern Madagascar.

**Comment:** See comment under *Mantella viridis*. In the *Mantella betsileo* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Andreone, Glaw, Nussbaum, Raxworthy, Vences, and Randrianirina, 2003, J. Nat. Hist., 37: 2119-2149, discussed the occurrence of this species (as *Mantella betsileo*) on Nosy Be. Glaw and Vences, 2006, Organisms Divers. Evol., 6: 236-253, discussed confusion in the literature and recognized *Mantella ebenaui* for populations formerly associated with the name *Mantella betsileo* from northern Madagascar. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 188-189, provided an account.

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***Mantella cowanii* Boulenger, 1882**

- *Mantella cowanii*Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 471. Syntypes: BMNH 1947.2.7.4-5 according to Blommers-Schlösser and Blanc, 1991, Faune de Madagascar, 75: 270; BMNH 1947.2.7.4 (formerly 82.3.16.38) designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 27. Type locality: "East Betsileo", Madagascar.

**Distribution:** Forested areas of the highlands southeast of Ambatolampy and near Antoetra, Madagascar, 1000-2000 m elevation.

**Comment:** Removed from the synonymy of *Mantella madagascariensis* by Blommers-Schlösser and Blanc, 1991, Faune de Madagascar, 75: 270, where it had been placed by Guibé, 1948, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 2, 20: 235-238, and Busse, 1981, Amphibia-Reptilia, 2: 29 (who also addressed confusion in application of the name *Mantella cowani*). Considered to be likely a color morph of *Mantella baroni* (as *Mantella madagascariensis*) by Glaw and Vences, 1992, Fieldguide Amph. Rept. Madagascar: 165. See comment under *Mantella haraldmeieri*. See Vences, Glaw, Peyrieras, Böhme, and Busse, 1994, Aquar. Terrar. Z., 47: 391, who note that this nominal species covers a number of well differentiated geographic forms. In the *Mantella cowani* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, who sorted out much of the nomenclatural confusion surrounding this name; and of Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 170-172, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 194-195, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 427. Andreone, Vences, Glaw, and Randrianirina, 2007, Tropical Zool., 20: 19-39, reported the species from the high plateau of central Madagascar.

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***Mantella crocea* Pintak and Böhme, 1990**

- Mantella croceaPintak and Böhme, 1990, Salamandra, 26: 58. Holotype: ZFMK 45007, by original designation. Type locality: "Andasibé (=Périnet), mittleres Ostmadagaskar".

**Distribution:** Known only from the vicinity of the type locality in east-central Madagascar: Ifoha west of Parc National de Mantadia; forest area east of Ambohimanarivo; forest bordering the north of Torotorofotsy marsh, and in and around the Reserve Naturelle Intégrale de Zahameno, 800-1057 m elevation.

**Comment:** Similar to the *Mantella betsileo* and *Mantella madagascariensis* species groups according to the original publication. In the *Mantella aurantiaca* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 173-175, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 198-199, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 427, who provided a personal communication from M. Vences and F. Glaw that *Mantella crocea* and *Mantella milotympanum* may be color variants of the same species. Bora, Dolch, Jenkins, Jovanovic, Rabemananjara, Randrianirina, Rafanomezantsoa, Raharivololoniaina, Ramilijaona, Raminosoa, Randrianavelona, Raselimanana, Razafimahatratra, Razafindraibe, and Vences, 2008, Herpetol. Notes, 1: 39-48, detailed the range and provided a map. Edmonds, 2009, Herpetol. Notes, 2: 53-57, provided range extensions.

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***Mantella ebenaui* (Boettger, 1880)**

- *Dendrobates ebenaui*Boettger, 1880, Zool. Anz., 3: 281. Syntypes: (2 specimens in original publication), these being SMF 1141.1a and MCZ 2165 (according to Barbour and Loveridge, 1929, Bull. Mus. Comp. Zool., 69: 303. SMF 7323 designated lectotype by Mertens, 1967, Senckenb. Biol., 48(A): 24. Type locality: "insula Nossi Bé", Madagascar.
- *Mantella ebenaui* — Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 141; Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 633.
- *Mantella attemsi*Werner, 1901, Verh. Zool. Bot. Ges. Wien, 51: 627. Syntypes: including NHMW 20837, according to Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 24, and Häupl, Tiedemann, and Grillitsch, 1994, Kat. Wiss. Samml. Naturhist. Mus. Wien, 9: 28, and ZMB 16588 according to Vences, Glaw, and Böhme, 1999, Alytes, 17: 12. NHMW 20837 designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 11. Type locality: "Madagascar oder Nossi-Bé". Synonymy with *Mantella betsileo* by Guibé, 1964, Senckenb. Biol., 45: 263; Guibé, 1978, Bonn. Zool. Monogr., 11: 83. Synonymy with *Mantella ebenaui* by Glaw and Vences, 2006, Organisms Divers. Evol., 6: 250.

**Distribution:** Northern east coast and the Sambirano region in northwestern Madagascar; Nosy Komba.

**Comment:** Removed from the synonymy of *Mantella betsileo* by Glaw and Vences, 2006, Organisms Divers. Evol., 6: 250 (and who discussed the previous confusion), where it had been placed by Mocquard, 1909, Nouv. Arch. Mus. Natl. Hist. Nat. Paris, Ser. 5, 1: 66; Methuen and Hewitt, 1913, Ann. Transvaal Mus., 4: 57; Guibé, 1978, Bonn. Zool. Monogr., 11: 83. In the *Mantella betsileo* group of Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. In the *Mantella cowani* group of Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 188-189, provided an account. Roberts and Daly, 2014, Salamandra, 50: 18–26, reported this species from Nosy Komba, between Nosy Be and the mainland.

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***Mantella expectata* Busse and Böhme, 1992**

- *Mantella expectata*Busse and Böhme, 1992, Rev. Fr. Aquar. Herpetol., 19: 58. Holotype: ZFMK 53540 by original designation. Type locality: "20 km southeast of Toliara (= Tuléar), W-Madagascar".

**Distribution:** Southwestern Madagascar from a few localities around the Isalo Massif (700-1000 m elevation).

**Comment:** In the *Mantella betsileo* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 178-181, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 190-191, provided an account and noted a similar unnamed species in western Madagascar. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 427, who noted that the records from near Tuléar are likely erroneous.

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***Mantella haraldmeieri* Busse, 1981**

- *Mantella madagascariensis haraldmeieri*Busse, 1981, Amphibia-Reptilia, 2: 34. Holotype: ZFMK 53540 by original designation. Type locality: "FortDauphin, Süd Madagaskar".
- *Mantella haraldmeieri* — Meier, 1986, Herpetofauna, Weinstadt, 8: 9. Pintak and Böhme, 1990, Salamandra, 26: 58-62; Glaw and Vences, 1992, Fieldguide Amph. Rept. Madagascar: 166.

**Distribution:** AnosyMountains, southeastern Madagascar, 300-950 m elevation.

**Comment:** Placed in the synonymy of *Mantella cowani* by Blommers-Schlösser and Blanc, 1991, Faune de Madagascar, 75: 270, but resurrected by Böhme, Busse, and Glaw, 1993, Amphibia-Reptilia, 14: 269-273. In the *Mantella cowani* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 182-185, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 194-195, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 428, who provided a personal communication from F. Glaw that this taxon may be a color variant of *Mantella baroni*.

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***Mantella laevigata* Methuen and Hewitt, 1913**

- *Mantella laevigata*Methuen and Hewitt, 1913, Ann. Transvaal Mus., 4: 57. Holotype: TMP 10074 (formerly 1214), by original designation and according to Blommers-Schlösser and Blanc, 1991, Faune de Madagascar, 75: 269; the consideration of MCZ 10815 (on exchange

from TMP) as a syntype, by Barbour and Loveridge, 1929, Bull. Mus. Comp. Zool., 69: 304, is in error. Type locality: Folohy, eastern Madagascar.

**Distribution:** Northeastern Madagascar from Marojejy south to Folohy, 0-600 m elevation.

**Comment:** Removed from the synonymy of *Mantella cowanii* by Busse, 1981, Amphibia-Reptilia, 2: 27, where it had been placed by Guibé, 1964, Senckenb. Biol., 45: 259-264. Sole member of the *Mantella laevigata* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72, and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 186-189, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 192-193, provided an account. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 624.

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***Mantella madagascariensis* (Grandidier, 1872)**

- *Dendrobates madagascariensis*Grandidier, 1872, Ann. Sci. Nat., Paris, Ser. 5, 15: 10. Syntypes: MNHNP 1895.276-277, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 33. MNHNP 1895.276 designated lectotype by Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403. Type locality: "Forêt d'Ambalavatou, entre Mananzarine et Fianarantsoua", Madagascar.
- *Mantella madagascariensis* — Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 141.
- *Mantella loppei*Roux, 1935, Bull. Soc. Zool. France, 60: 441. Holotype: NHMB 4849 according to Forcart, 1946, Verh. Naturforsch. Ges. Basel, 57: 130. Type locality: "Moroulambo, Prov. de Vatomandry, Est Madagascar". Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403, considered this name a *nomen dubium*, but used the name tentatively for another species in east-central Madagascar. Daly, Andriamaharavo, Andriantsiferana, and Myers, 1996, Am. Mus. Novit., 3177: 13, considered this application of the name to be dubious. Synonymy by Busse, 1981, Amphibia-Reptilia, 2: 32, and (answering previous critics) Vences, Glaw, and Böhme, 1999, Alytes, 17: 37.
- *Mantella madagascariensis madagascariensis* — Busse, 1981, Amphibia-Reptilia, 2: 32.

**Distribution:** East-central Madgascar in upland locations from near Niagarakely south to Ranomafana, 700-1050 m elevation.

**Comment:** Daly, Andriamaharavo, Andriantsiferana, and Myers, 1996, Am. Mus. Novit., 3177: 17-18, rejected the use of this name for reason of being unidentifiable. Vences, Glaw, and Böhme, 1999, Alytes, 17: 37, discussed the issue and suggested that the lectotype is identifiable. In the *Mantella madagascariensis* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 190-193, provided an account. Chiari, Vences, Vieites, Rabemananjara, Bora, Ravoahangimalala, and Meyer, 2004, Mol. Ecol., 13: 3763-3774, suggested that nominal *Mantella madagascariensis* may be a composite of cryptic species, with at least one taxon more closely related to *Mantella pulchra* rather than to the remaining populations of *Mantella madagascariensis*. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 196-197, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 428.

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***Mantella manery* Vences, Glaw, and Böhme, 1999**

- *Mantella manery*Vences, Glaw, and Böhme, 1999, Alytes, 17: 15. Holotype: ZIAU (Zoological Institute of Antananarivo University) unnumbered, by original designation. Noted as UADBA (Université d'Antananarivo, Département de Biologie Animale, Antananarivo, Madagascar) 7273, by Vences, Woodhead, Bora, and Glaw, 2004, Alytes, 22: 15. Type locality: "Réserve Naturelle Intégrale Marojezy, near Camp 1, ca. 300 m altitude", Madagascar.

**Distribution:** Known from the Marojezy Massif and to the south near Darain, northeastern Madagascar.

**Comment:** In the *Mantella betsileo* group according to the original publication and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 194-195, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 192-193, provided an account. Edmonds, 2009, Herpetol. Notes, 2: 53-57, provided a record from near Daraina in northeastern Madagascar, and suggested that hybridization was evident in this population with *Mantella ebenaui*.

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***Mantella milotympanum* Staniszewski, 1996**

- *Mantella aurantiaca milotympanum*Staniszewski, 1996, Reptilian, 4: 24. Type(s): Not formally designated; specimen figured on page 18 of original inadvertent description designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 44, although they noted that this specimen is presumed lost. Type locality: "in the FiherenanaValley in central east Madagascar".
- *Mantella milotympanum* — Vences, Glaw, and Böhme, 1999, Alytes, 17: 44.

**Distribution:** FiherenanaValley about 50 km west of Andasibe, Madagascar.

**Comment:** In the *Mantella aurantiaca* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 196-199, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 198-199, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 428. See comment under *Mantella crocea*. Bora, Dolch, Jenkins, Jovanovic, Rabemananjara, Randrianirina, Rafanomezantsoa, Raharivololoniaina, Ramilijaona, Raminosoa, Randrianavelona, Raselimanana, Razafimahatratra, Razafindraibe, and Vences, 2008, Herpetol. Notes, 1: 39-48, detailed the range and provided a map.

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***Mantella nigricans* Guibé, 1978**

- *Mantella cowani nigricans*Guibé, 1978, Bonn. Zool. Monogr., 11: 84. Type(s): Not designated although several specimens of an assortment of species in MNHNP considered syntypes by museum records; MNHNP 1973.555 designated lectotype by Vences, Glaw, and Böhme, 1999, Alytes, 17: 30. Type locality: "Maroyezi", Madagascar.
- *Mantella madagascariensis nigricans* — Busse, 1981, Amphibia-Reptilia, 2: 32.
- *Mantella nigricans* — Vences, Glaw, and Böhme, 1999, Alytes, 17: 30.

**Distribution:** Marojezy Massif, northeastern Madagascar.

**Comment:** In the *Mantella cowani* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Odierna, Vences, Aprea, Lötters, and Andreone, 2001, Zool. Sci., Tokyo, 18: 505-514, provided karyological data in support of the distinctiveness of this species. Staniszewski, 2001, Mantellas: 200-203, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 194-195, provided an account.

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***Mantella pulchra* Parker, 1925**

- *Mantella pulchra*Parker, 1925, Ann. Mag. Nat. Hist., Ser. 9, 16: 393. Holotype: BMNH 1947.2.7.20 (formerly 1925.7.2.58) according to Blommers-Schlösser and Blanc, 1991, Faune de Madagascar, 75: 272, and Vences, Glaw, and Böhme, 1999, Alytes, 17: 38. Type locality: "Antsihanaka", Madagascar.
- *Mantella cowani pulchra* — Andreone, 1992, Boll. Mus. Reg. Sci. Nat. Torino, 10: 437.

**Distribution:** Northeastern Madagascar from Mananarana-Nord south to An'Ala, 300-950 m elevation.

**Comment:** Considered a synonym of *Mantella madagascariensis* by Busse, 1981, Amphibia-Reptilia, 2: 29, and likely a color morph of *Mantella madagascariensis* by Glaw and Vences, 1992, Fieldguide Amph. Rept. Madagascar: 165, and as a subspecies of *Mantella cowani* by Andreone, 1992, Boll. Mus. Reg. Sci. Nat. Torino, 10: 421-450; but recognized subsequently by Glaw and Vences, 1994, Fieldguide Amph. Rept. Madagascar, Ed. 2: 403. In the *Mantella madagascariensis* group of Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. See comment under *Mantella cowani*. Staniszewski, 2001, Mantellas: 204-207, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 196-197, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 428.

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***Mantella viridis* Pintak and Böhme, 1988**

- Mantella viridisPintak and Böhme, 1988, Salamandra, 24: 119. Holotype: ZFMK 47900, by original designation. Type locality: "südlich Antseranana (=Diego Suarez), Nord-Madagaskar".

**Distribution:** Known from the Montagne des Français and the Massif of Antogombato, south of Diego Suarez, in very northern Madagascar, 50-300 m elevation.

**Comment:** Most similar to *Mantella betsileo* according to the original publication. In the *Mantella betsileo* group according to Vences, Glaw, and Böhme, 1999, Alytes, 17: 3-72; and Glaw and Vences, 2006, Organisms Divers. Evol., Electron. Suppl., 11(1): 2. Staniszewski, 2001, Mantellas: 209-211, provided an account. Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 190-191, provided an account and noted a similar unnamed species in northern Madagascar. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 429, who noted similar populations to the southwest that may be of the same species. Mercurio and Andreone, 2008, Herpetol. Notes, 1: 3-7, discussed the range and provided a map. Crottini, Brown, Mercurio, Glaw, Vences, and Andreone, 2012, J. Zool. Syst. Evol. Res., 50: 305-314, reported on geographic variation.

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# MICROHYLIDAE

## Genus: *Dyscophus* Grandidier, 1872

***Dyscophus antongilii* Grandidier, 1877**

- *Dyscophus insularis* var. *antongilii*Grandidier, 1877, Bull. Soc. Philomath., Paris, Ser. 7, 1: 41. Holotype: MNHNP 1883.2, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 60. Type locality: "baie d'Antongil", Madagascar.
- *Dyscophus insularis* var. *pallidus*Grandidier, 1877, Bull. Soc. Philomath., Paris, Ser. 7, 1: 42. Holotype: MNHNP 1895.293, according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 60. Type locality: "Andovoranto", Madagascar. Synonymy by Mocquard, 1895, Bull. Soc. Philomath., Paris, Ser. 8, 7: 110.
- *Dyscophussanguineus*Boettger, 1880, Zool. Anz., 3: 567. Syntypes: SMF (2 specimens); SMF 4280 designated lectotype by Mertens, 1967, Senckenb. Biol., 48(A): 49. Type locality: "Tohizona insulae Madagascar"; given as Foizana [Madagascar] by Parker, 1934, Monogr. Frogs Fam. Microhylidae: 24. Synonymy by Boulenger, 1882, Zool. Rec., 18: 14; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 180.
- *Dyscophus antongilii* — Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 180.
- *Dyscophus antongilii* var. *pallidus* — Mocquard, 1895, Bull. Soc. Philomath., Paris, Ser. 8, 7: 110.

- *Discophus antongilii* — Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 60.
- *Discophus antongili* — Guibé, 1978, Bonn. Zool. Monogr., 11: 93.

**Distribution:** Northeastern Madagascar along the coast (AntongilaBay, Ambatovaky, Andivoranto, and near Andasibe), 0-600 m elevation.

**Comment:** See comment under *Dyscophus guineti*. See brief account by Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 116-117. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 626.

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## Genus: *Scaphiophryne* Boulenger, 1882

### *Scaphiophryne gottlebei* Busse and Böhme, 1992

- *Scaphiophryne gottlebei*Busse and Böhme, 1992, Rev. Fr. Aquar. Herpetol., 19: 60. Holotype: ZFMK 53543, by original designation. Type locality: "Montagne de l'Isalo: Vallée des Singes, W-Madagascar".
- *Scaphiophryne (Scaphiophryne) gottlebei* — Grosjean, Glos, Teschke, Glaw, and Vences, 2007, Zool. J. Linn. Soc., 151: 572.

**Distribution:** Isalo Massif region often in deep canyons, FianarantsoProvince, southern Madagascar, 700-1000 m elevation.

**Comment:** Reported as a tetraploid species by Vences, Aprea, Capriglione, Andreone, and Odierna, 2002, Chromosome Res., 10: 127-136. See brief account by Glaw and Vences, 2007, Field Guide Amph. Rept. Madagascar, Ed. 3: 112. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 461.

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# MYOBATRACHIDAE

## Genus: *Rheobatrachus* Liem, 1973[1]

### *Rheobatrachus silus* Liem, 1973

**NC comment: not covered by CITES listing of *Rheobatrachus* spp. (see respective footnote in the Appendices)**

- *Rheobatrachus silus*Liem, 1973, Mem. Queensland Mus., 16: 467. Holotype: QM J22489, by original designation. Type locality: "Kondalilla, 3 km SW. Montville, SE. Queensland, Australia, 500 m above sea level".

**Distribution:** Rocky mountain streams in the Conondale and Blackall ranges in southeastern Queensland, Australia.

**Comment:** Reviewed by Tyler, 1983, Gastric-brooding Frog. Thought to be extinct (see Couper, 1992, Wildl. Aust., 1992: 11-12. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 143, who regarded the species as extinct. See brief account by Tyler and Knight, 2009, Field Guide Frogs Aust.: 128-129.

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[1] CITES Appendix II listing only covers "*Rheobatrachus* spp. (Except *Rheobatrachus silus* and *Rheobatrachus vitellinus*)". So far no further species have been discovered and described.

***Rheobatrachus vitellinus* Mahony, Tyler, and Davies, 1984**

**NC comment: not covered CITES listing of *Rheobatrachus* spp. (see respective footnote in the Appendices)**

- *Rheobatrachus vitellinus*Mahony, Tyler, and Davies, 1984, Trans. R. Soc. S. Aust., 108: 155. Holotype: QM J42529, by original designation. Type locality: "EungellaNational Park, 148° 38′ 00 E.; 21° 01′ 30 S., Queensland", Australia.

**Distribution:** Known only from the ClarkeRange, near Eungella, Queensland, Australia.

**Comment:** Possibly extinct; no recent sightings (see Couper, 1992, Wildl. Aust., 1992: 10-11, and McDonald, 1990, Trans. R. Soc. S. Aust., 114: 187-194). See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 143, who regarded the species as extinct. See brief account by Tyler and Knight, 2009, Field Guide Frogs Aust.: 128-129.

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# RANIDAE

## Genus: *Lithobates* Fitzinger, 1843

***Lithobates catesbeianus* (Shaw, 1802)**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Rana catesbeiana*Shaw, 1802, Gen. Zool., 3(1): 106. Type(s): Specimen illustrated by Shaw, 1802, Gen. Zool., 3(1): 106, pl. 33; not known to exist. Type locality: "many parts of North America . . . Carolina . . . . Virginia"; restricted to "South Carolina", USA, by Kellogg, 1932, Bull. U.S. Natl. Mus., 160: 197; restricted to "Charleston, Charleston County", South Carolina by Smith and Taylor, 1950, Univ. Kansas Sci. Bull., 33: 360; restricted to "vicinity of Charleston, South Carolina", USA, by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 79. These restrictions invalid for reason of not being based on disclosed evidence according to Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 407.
- *Rana pipiens*Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: 58. Syntypes: Including frog figured on pl. 18 of the original publication and five individuals noted in the original publication as being in the MNHNP. Type locality: "l'Amerique Septentrionale, et sur-tout dans la Caroline . . . la Virginie", USA. Primary homonym of *Rana pipiens* Schreber, with which Daudin was aware. Stated in the original publication to be Lacepede's Grenouille mugisante (= *Lithobates catesbeianus*).
- *Rana taurina*Cuvier, 1817, Regne Animal., 2: 93. Replacement name for *Rana pipiens* Daudin, 1802.
- *Rana mugiens*Merrem, 1820, Tent. Syst. Amph.: 175. Types: Based in part on Catesby, 1754, Nat. Hist. Carolina Florida Bahama Is.: pl. 72 (which appears from the illustration to be *Rana grylio*—DRF), *Rana catesbeiana* of Shaw, 1802, Gen. Zool., 3(1): 105; *Rana pipiens* of Latreille, Rept.: 153 (unknown citation: DRF; given as "Latreille, 1825, by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 408, but not in their literature cited) and Daudin, 1802 "An. XI", Hist. Nat. Rain. Gren. Crap., Quarto: 58: 58, t. 18; Daudin, 1803 "An. XI", Hist. Nat. Gen. Part. Rept., 8: 113, and frogs mentioned by Kalm, 1761, En Resa Norra America, 3: 140, 191, 512; under the names of "Manteskühe" and "Ochsenfrösche"; clearly a mixture of several species of frogs (DRF). Type locality: "America septentionali"; restricted to "vicinity of New York City", USA, by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 79, this restriction considered invalid by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 408, for reason of not being based on disclosed evidence. Synonymy by Schinz, 1822, Thierr. Naturgesch., 2: 164 (*Rana catesbeiana* Shaw treated as if junior); Duméril and Bibron, 1841, Erp. Gen., 8: 379 (as *Rana mugiens*); Le Conte, 1855, Proc. Acad. Nat. Sci. Philadelphia, 7: 423; Günther, 1859 "1858", Cat. Batr. Sal. Coll. Brit. Mus.: 13 (using *Rana mugiens* as the name of choice); Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 36.
- *Rana scapularis*Harlan, 1826, Am. J. Sci. Arts, 10: 59. Types: Not designated, although presumably originally in ANSP. Type locality: "Pennsylvania", USA; restricted to "vicinity of

Philadelphia", USA, by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 79, this restriction considered invalid by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 408, for reason of not being based on disclosed evidence. Synonymy with *Rana mugiens* and *Rana catesbeiana* by Duméril and Bibron, 1841, Erp. Gen., 8: 370 with *Rana catesbeiana* by Le Conte, 1855, Proc. Acad. Nat. Sci. Philadelphia, 7: 423; Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 36.

- *Rana conspersa*Le Conte, 1855, Proc. Acad. Nat. Sci. Philadelphia, 7: 425. Syntypes: Including ANSP 2918, according to Malnate, 1971, Proc. Acad. Nat. Sci. Philadelphia, 123: 350. Type locality: "Pennsylvania"; restricted to "Riceborough, Liberty County, Georgia" by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 79, this restriction considered invalid by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 408, for reason of not being based on disclosed evidence. Synonymy by Boulenger, 1882, Cat. Batr. Sal. Coll. Brit. Mus., Ed. 2: 36.
- *Rana catesbyana* — Cope, 1889, Bull. U.S. Natl. Mus., 34: 424.
- *Rana catesbyana* — Werner, 1909, Amph. Rept., 1: 86; Smith, 1978, Amph. N. Am.: 66. Incorrect subsequent spelling.
- *Rana (Rana) catesbeiana* — Boulenger, 1920, Rec. Indian Mus., 20: 10; Dubois, 1987 "1986", Alytes, 5: 41; by implication.
- *Rana nantaiwuensis*Hsü, 1930, Contrib. Biol. Lab. Sci. Soc., China, Zool. Ser., 6: 19. Holotype: Mus. Univ. Amoy, presumed lost in World War II. Type locality: "Nantaiwu, Amoy [= Xiamen Shi, FujianProvince], China". Considered a junior synonym or *incertae sedis* within *Hoplobatrachus* by Dubois, 1987 "1986", Alytes, 5: 60; without discussion. Synonymy with *Rana catesbeiana* by Zhao and Adler, 1993, Herpetol. China: 140. Previously considered a synonym of *Rana spinosa* by Liu and Hu, 1961, Tailless Amph. China: 156.
- *Rana mugicus* — Angel, 1947, Vie et Moeurs Amph.: 253. Apparent incorrect subsequent spelling of *Rana mugiens*, but based on specimens of *Lithobates pipiens*; see discussion by Smith, 1948, Am. Midl. Nat., 40: 517–518. See confusing and extensive comment by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 409, regarding this entry in this catalog. I have checked back to at least 2004 and cannot figure what they are referring to as this entry has been stable since at least then and these authors state that something else appeared here. Go figure.
- *Rana (Rana) catesbeiana* — Dubois, 1987 "1986", Alytes, 5: 41, by implication; Maeda and Matsui, 1990, Frogs Toads Japan, Ed. 2: 107
- *Rana (Aquarana) catesbeiana* — Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 331.
- *Rana (Novirana, Aquarana) catesbeiana* — Hillis and Wilcox, 2005, Mol. Phylogenet. Evol., 34: 305. See Dubois, 2006, Mol. Phylogenet. Evol., 42: 317–330, Hillis, 2007, Mol. Phylogenet. Evol., 42: 331–338, and Dubois, 2007, Cladistics, 23: 390–402, for relevant discussion of nomenclature. Invalid name formulation under the International Code of Zoological Nomenclature (1999) as discussed by Dubois, 2007, Cladistics, 23: 395.
- *Lithobates catesbeianus* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 369; Che, Pang, Zhao, Wu, Zhao, and Zhang, 2007, Mol. Phylogenet. Evol., 43: 1–13, by implication.
- *Lithobates (Aquarana) catesbeianus* — Dubois, 2006, C. R. Biol., Paris, 329: 829; Dubois, 2006, Mol. Phylogenet. Evol., 42: 325.
- *Rana (Aquarana) catesbeiana* — Hillis, 2007, Mol. Phylogenet. Evol., 42: 335–336, by implication.
- *Rana (Lithobates) catesbeiana* — Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 407.

**Distribution:** Eastern North America, except southern Florida, north to Nova Scotia, New Brunswick, southern Quebec, and southern Ontario (Canada), west to the central plains and south to Hidalgo, Puebla, and adjacent Veracruz (Mexico); introduced on Cuba, Isla de Juventud (= Isla de Pinos), Puerto Rico, Hispaniola, and Jamaica in the Antilles; introduced widely in the rest of the world including the Netherlands, Bordeaux region of France, Belgium, northern Italy, western Spain, Crete, Malaya (Malaysia), Java, Bali, Japan, southern and western Mexico, Brazil, Argentina, Chile, Colombia, Ecuador, Guiana, Paraguay, Venezuela, Uruguay, northern Thailand, Korea, and Taiwan (China).

**Comment:** In the *Rana catesbeiana* group of XXX. In the equivalent *Rana (Rana) clamitans* group of Dubois, 1987 "1986", Alytes, 5: 41, in the equivalent subgenus *Aquarana* of Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 331. Fei, 1999, Atlas Amph. China: 306–307, provided a brief account

and figure for the species in China. Lanza and Ferri, 1997, *in* Gasc et al. (eds.), Atlas Amph. Rept. Eur.: 132–133, discussed range and relevant literature for European introduced populations. Maeda and Matsui, 1990, Frogs Toads Japan, Ed. 2: 100–107, provided an account for Japanese introduced populations. Fei and Ye, 2001, Color Handbook Amph. Sichuan: 228–229, provided a brief account and illustration for the introduced Chinese population. Grismer, 2002, Amph. Rept. Baja California: 79–81, provided an account for the introduced BajaCalifornia, Mexico, populations. Duifhuis-Rivera, García-Vázquez, and Zamora-Hebrego, 2008, Herpetol. Rev., 39: 479, provided a record for Hidalgo, Mexico and briefly discussed the nearby records in Puebla. Mullen, 1976, Herpetol. Rev., 7: 122, reported an introduced population in Baja Californiadel Sur, Mexico. Borges-Martins, Di-Bernardo, Vinciprova, and Measey, 2002, Herpetol. Rev., 33: 319, discussed the introduced populations in southern Brazil. Stebbins, 2003, Field Guide W. Rept. Amph., Ed. 3: 240–242, provided a brief account, figure, and map. Yang, Kim, Min, and Suh, 2001, Monogr. Korean Amph.: 72–73, provided a brief account, figure, and map for South Korea. Lever, 2003, Naturalized Rept. Amph. World: 203-218, discussed the introduced populations in England, Italy, Spain, France, Netherlands, China, Java, Bali, Japan, Israel, Malaysia, Russia, Argentina, Paraguay, Peru, Guyana, Brazil, Chile, Colombia, Ecuador, Venezuela, Cuba, Jamaica, Haiti, Dominican Republic, Puerto Rico, Hawaii. Goris and Maeda, 2004, Guide Amph. Rept. Japan: 62–63, provided an account for Japan, map, and photograph. Cisneros-Heredia, 2004, Herpetol. Rev., 35: 406, provided a record (introduced) for Ecuador. Pereyra, Baldo, and Krauczuk, 2006, Cuad. Herpetol., 20: 37–40, discussed the introduced populations in Argentina (and noted the other South American countries for which populations have been discovered). Sanabria, Ripoll, Jordan, Quiroga, Ariza, Guillemain, Pérez, and Chavez, 2011, Rev. Mexicana Biodivers., 82: 311-313, reported a record for San Juan Province, Argentina. Valakos, Pafilis, Sotiropoulos, Lymberakis, Maragou, and Foufopoulos, 2008, Amph. Rept. Greece: 134–135, provided an account for the introduced population on Crete. Austin and Zamudio, 2008, Mol. Phylogenet. Evol., 48: 1041–1053, reported on mtDNA phylogeographic structure. Chan, Wood, and Grismer, 2008, Herpetol. Rev., 39: 479, provided a record for West Malaysia. Savage and Bolaños, 2009, Zootaxa, 2005: 9, reported this species as introduced in Costa Rica. See detailed account for the introduced population in Italy by Stagni and Lanza, 2007, *in* Lanza et al. (eds.), Fauna d'Italia, 42 (Amph.): 377–381. Farr, Lazcano, and Lavín-Murcio, 2009, Herpetol. Rev., 40: 459–467, provided records for eastern Tamaulipas, Mexico, and discussed the historical range of this species in that region. Chan, Belabut, and Ahmad, 2010, Russ. J. Herpetol., 17: 202–206, noted an introduced population in West Malaysia. Both, Lingnau, Santos, Madalozzo, Lima, and Grant, 2011, S. Am. J. Herpetol., 6: 127–134, documented the widespread feral population in southeastern Brazil. Ferreira and Lima, 2012, North-West. J. Zool., Romania, 8: 386–389, also discussed populations in Espírito Santo, southern Brazil. Iñeguez and Morejón, 2012, S. Am. J. Herpetol., 7: 85–90, discussed the potential range in Ecuador. Lemos-Espinal, 2007, Anf. Rept. Chihuahua Mexico: 56–57, provided an account (as *Rana catesbeiana*) for Chihuahua, Mexico. Lemos-Espinal and Dixon, 2013: 68–69, provided an account for San Luis Potosí, Mexico. Henderson and Powell, 2009, Nat. Hist. Rept. Amph. W. Indies: 96–97, summarized the natural history literature of the introduced Antillean populations. Casper and Hendricks, 2005, *in* Lannoo (ed.), Amph. Declines: 540–546, and Dodd, 2013, Frogs U.S. and Canada, 2 : 486–515, provided accounts that summarized relevant literature. Elliot, Gerhardt, and Davidson, 2009, Frogs and Toads of N. Am.: 186–189, provided an account, photos, and advertisement call. Rivalta González, Rodríguez Schettino, Mancina, and Iturriaga, 2014, Smithson. Herpetol. Inform. Ser. , 145: 36–37, provided a dot map and localities for Cuba. Lin, Tao, Fang, Wang, and Zhang, 2014, Mitochondrial DNA, 25: 447–448, reported on the complete mtDNA genome. Altig and McDiarmid, 2015, Handb. Larval Amph. US and Canada: 225–227, provided an account of larval morphology and biology. See account of biology and life history in southern Florida by Meshaka and Lane, 2015, Herpetol. Conserv. Biol., 10 (Monogr. 5): 75–78.

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## Genus: *Pelophylax* Fitzinger, 1843

### *Pelophylax shqipericus* (Hotz, Uzzell, Günther, Tunner, and Heppich, 1987)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Rana shqiperica*Hotz, Uzzell, Günther, Tunner, and Heppich, 1987, Not. Nat., Philadelphia, 468: 2. Holotype: ANSP 30211, by original designation. Type locality: "Virpazar, Skadarsko Jezero, Crna Gora, Yugoslavia [now Montenegro] (42°14′N, 19°05′E)".
- *Rana (Pelophylax) shqiperica* — Dubois, 1992, Bull. Mens. Soc. Linn. Lyon, 61: 332.

- *Hylarana shqiperica* — Chen, Murphy, Lathrop, Ngo, Orlov, Ho, and Somorjai, 2005, Herpetol. J., 15: 237, by implication.
- *Pelophylax shqipericus* — Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006, Bull. Am. Mus. Nat. Hist., 297: 369. Che, Pang, Zhao, Wu, Zhao, and Zhang, 2007, Mol. Phylogenet. Evol., 43: 1-13; by implication.

**Distribution:** Region of the type locality in southern Montenegro south along the Adriatic coastal region to southwestern Albania, below 500 m elevation.

**Comment:** Formerly often confused with "*Pelophylax esculentus*". See *Pelophylax bergeri*. Considered distinct (as *Rana*) from *Pelophylax lessonae* on the basis of morphometry, immunology, and allozymes, but considered conspecific by Schneider and Haxhiu, 1994, Zool. Jahrb., Jena, Abt. Syst., 121: 248-262, and Sinsch and Schneider, 1996, J. Zool. Syst. Evol. Res., 34: 63-73, because of the lack of significant differences between mating calls. This synonymy rejected by Beerli, unpublished dissertation, and Dubois and Ohler, 1996 "1994", Zool. Polon., 39: 178, and Plötner, 1998, J. Zool. Syst. Evol. Res., 36: 191-201, and Plötner and Ohst, 2001, Mitt. Mus. Naturkd. Berlin, Zool., 77: 5-21 (who suggested that this species was most closely related to *Pelophylax lessonae* and *Pelophylax bergeri*). Günther, 1997, *in* Gasc et al. (eds.), Atlas Amph. Rept. Eur.: 156-157, discussed relevant literature, distribution, and taxonomic controversy. Nöllert and Nöllert, 1992, Die Amph. Eur.: 361-363, provided an account and polygon map. Arnold, 2002, Rept. Amph. Eur., Ed. 2: 95, provided a brief account, figure, and map. Casola, Marracci, Bucci, Ragghianti, Mancino, Hotz, Uzzell, and Guex, 2004, J. Zool. Syst. Evol. Res., 42: 234-244, provided a molecular tree of western Palearctic water frogs (as *Rana*) in the topology *Pelophylax saharicus* (*Pelophylax cretensis* (*Pelophylax perezi* (*Pelophylax shqipericus* (*Pelophylax epeiroticus* (*Pelophylax lessonae* + *Pelophylax ridibundus*))))). See photograph, map, description of geographic range and habitat, and conservation status (as *Rana shqiperica*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 511. Domeneghetti, Bruni, Fasola, and Bellati, 2013, Acta Herpetol., Firenza, 8: 171–176, reported this species as an introduction in Umbria, Italy.

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# CAUDATA

# AMBYSTOMATIDAE

## Genus: *Ambystoma* Tschudi, 1838

***Ambystoma dumerilii* (Dugès, 1870)**

- *Siredon dumerilii*Dugès, 1870, Naturaleza, 1: 241. Syntypes: Not stated, but presumably originally in MDUG; including USNM 16201-16202 (according to Cochran, 1961, Bull. U.S. Natl. Mus., 220: 24) and ANSP 13862, according to Smith and Necker, 1943, An. Esc. Nac. Cienc. Biol., México, 3: 214. Maldonado-Koerdell, 1948, Nat. Hist. Misc., 23: 1-3, noted a probable syntype in the MDUG. Type locality: "laguna de Pátzcuaro", Michoacán, Mexico, 2055 feet altitude.
- *Amblystoma dumerili* — Cope, 1889, Bull. U.S. Natl. Mus., 34: 7.
- *Ambystoma dumerili* — Lafrentz, 1930, Abh. Ber. Mus. Nat. Heimatkd. Magdeburg, 6: 95.
- *Bathysiredon dumerilii* — Dunn, 1939, Not. Nat., Philadelphia, 36: 1.
- Siredon dumerilii — Smith, 1939, Field Mus. Nat. Hist. Publ., Zool. Ser., 24: 16.
- *Bathysiredon dumerilii* — Smith and Necker, 1943, An. Esc. Nac. Cienc. Biol., México, 3: 214. Smith and Taylor, 1948, Bull. U.S. Natl. Mus., 194: 7.
- *Bathysiredon dumerilii dumeril*i — Maldonado-Koerdell, 1948, Mem. Rev. Acad. Nac. Cienc. Antonio Alzate, 56: 199, by implication.
- *Bathysiredon dumerilii queretarensis*Maldonado-Koerdell, 1948, Mem. Rev. Acad. Nac. Cienc. Antonio Alzate, 56: 199. Syntypes: MDUG (2 specimens), by original designation. Type locality: "San Juan del Río (Q[uereta]ro)", Mexico.
- *Ambystoma (Bathysiredon) dumerilii* — Tihen, 1958, Bull. Florida State Mus., Biol. Sci., 3: 3, 44.
- *Ambystoma queretarense* — Smith and Smith, 1976, Synops. Herpetofauna Mex., 4: C-A-20. Status rejected by Brandon, 1992, Cat. Am. Amph. Rept., 532: 1-3.
- Ambystoma (Heterotriton) dumerilii — Dubois and Raffaëlli, 2012, Alytes, 28: 77-161.

**Distribution:** LakePátzcuaro (Michoacán), at 1920 m elevation, and very questionably from San Juan del Río (Queretaro), Mexico.

**Comment:** See account by Brandon, 1992, Cat. Am. Amph. Rept., 532: 1-3. See comment under *Ambystoma ordinarium*. Raffaëlli, 2007, Les Urodèles du Monde: 88, provided a brief account, figure, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 545. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 100, provided a brief account, photo, and map.

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***Ambystoma mexicanum* (Shaw and Nodder, 1798)**

- *Gyrinus mexicanus*Shaw and Nodder, 1798, Nat. Miscell., 9: pls. 342 and 343. Holotype: BMNH, according to the original and Shaw, 1802, Gen. Zool., 3(1): 612, but now lost according to Smith and Taylor, 1948, Bull. U.S. Natl. Mus., 194: 8. Type locality: Given both as "Mexicanum" and "Mexico". Restricted to "Xochimilco", Distrito Federal, Mexico, by Smith and Taylor, 1950, Univ. Kansas Sci. Bull., 33: 329. Opinion 1025, Anonymous, 1974, Bull. Zool. Nomencl., 31: 133-134, gave precedence to *Salamandra tigrina* Green, 1825, over *Gyrinus mexicanus* Shaw and Nodder, 1789, when treated as synonyms.
- *Siren pisciformis*Shaw, 1802, Gen. Zool., 3(1): 612. Substitute name for *Gyrinus mexicanus* Shaw and Nodder, 1789. Synonymy with *Siredon axolotl* by Wagler, 1830, Descript. Icon. Amph., Livr. 2: 8. Synonymy by Leunis, 1860, Synops. Drei Naturr., Zool., Ed. 2: 148; Baird, 1850 "1849", J. Acad. Nat. Sci. Philadelphia, Ser. 2, 1: 291; Cope, 1868 "1867", Proc. Acad. Nat. Sci. Philadelphia, 19: 180.
- *Triton mexicanus* — Oppel, 1811, Ordn. Fam. Gatt. Rept.: 81.
- *Philhydrus pisciformis* — Brookes, 1828, Prodr. Synops. Animal.: 16.

- *Hypochton pisciformis* — Gravenhorst, 1829, Delic. Mus. Zool. Vratislav., 1: 90.
- *Siredon axolotl*Wagler, 1830, Nat. Syst. Amph.: 209. also named by Wagler, 1830, Descript. Icon. Amph., Livr. 2: 8. Type(s): Not stated; given as "Museo Parisiensi, Berolinensi ac Monacensi" (ParisMuseum [= MNHNP], BerlinMuseum [= ZMB], and MunichMuseum [= ZSM]) by Wagler, 1830, Descript. Icon. Amph., Livr. 2: 8, not located by recent authors. Type locality: Not stated; given as "Mexico" by Wagler, 1830, Descript. Icon. Amph., Livr. 2: 8. Synonymy by Leunis, 1844, Synops. Drei Naturr., Zool., Ed. 1: 148; Leunis, 1860, Synops. Drei Naturr., Zool., Ed. 2: 148; Baird, 1850 "1849", J. Acad. Nat. Sci. Philadelphia, Ser. 2, 1: 292; Cope, 1868 "1867", Proc. Acad. Nat. Sci. Philadelphia, 19: 180.
- *Axolotus pisciformis* — Cuvier, 1831, Animal Kingdom (M'Murtrie), 2: 89.
- *Phyllhydrus pisciformis* —Gray *In*Cuvier, 1831, Animal Kingdom (Griffith), 9: 108.
- *Sirenodon pisciformis* — Wiegmann, 1832, *in* Wiegmann and Ruthe (eds.), Handbuch der Zool., Amph.: 204.
- *Stegoporus pisciformis* — Wiegmann, 1832, *in* Wiegmann and Ruthe (eds.), Handbuch der Zool., Amph.: 204.
- *Stegoporus mexicanum* — Wiegmann, 1832, *in* Wiegmann and Ruthe (eds.), Handbuch der Zool., Amph.: 205.
- *Hemitriton (Siredon) mexicanum* — Van der Hoeven, 1833, Handb. Dierkd., 2: 305, by implication.
- *Siredon mexicanus* — Schinz, 1833, Naturgesch. Abbild Rept.: 198. Gistel IN Gistel and Bromme, 1850, Handb. Naturgesch.: 334.
- *Axolotl pisciformis* — Guérin-Méneville, 1838, Icon. Regne Animal, 3: 18.
- *Axolotes guttata*Owen, 1844, Ann. Mag. Nat. Hist., Ser. 1, 14: 23. Syntypes: Not stated, although likely originally in BMNH. Type locality: "In lacu juxta urbem Mexico" (= in the lake next to the City of Mexico). Synonymy by Baird, 1850 "1849", J. Acad. Nat. Sci. Philadelphia, Ser. 2, 1: 292.
- *Siredon mexicanum* — Baird, 1850 "1849", J. Acad. Nat. Sci. Philadelphia, Ser. 2, 1: 292. Smith, 1939, Field Mus. Nat. Hist. Publ., Zool. Ser., 24: 16; Smith and Taylor, 1948, Bull. U.S. Natl. Mus., 194: 7.
- *Siredon Humboldtii*Duméril, Bibron, and Duméril, 1854, Erp. Gen., 9: 177. Syntypes: MNHNP, by original designation. Type locality: "Mexique" and "dans le lac qui entoure la ville de Mexico à 1160 toises d'élévation et dans les eaux des ruisseaux des montagnes qui y affluent", Mexico. Unavailable name for reason of being coined in synonymy with *Gyrinus mexicanus* Shaw, *Siren pisciformis* Shaw, *Hypochthon pisciformis* Gravenhorst, *Axolotes guttatus* Owen, and *Axolotes maculata* Gray. Synonymy by Smith, 1877, Tailed Amph.: 55.
- *Siren axolotl* — Schlegel, 1858, Handl. Dierkd., 2: 61.
- *Stegoporus mexicanus* — Leunis, 1860, Synops. Drei Naturr., Zool., Ed. 2: 148.
- *Axoloteles guttatus* — Wood, 1863, Illust. Nat. Hist., 3: 183.
- *Siredon* spec.? var. *alba*Duméril, 1869, Nouv. Arch. Mus. Natl. Hist. Nat. Paris, 5: 48. Holotype: Presumably deposited in MNHNP, but not in recent type lists. Type locality: "Mexique". Synonymy by Smith, 1969, BioScience, 19: 108. See comments provided by Thireau, 1987, Bull. Liaison Mus. Hist. Nat., Suppl., 71: 1.
- *Siredon pisciformis* — Wiedersheim, 1877, Morphol. Jahrb., 3: 459.
- *Amblystoma weismanni*Wiedersheim, 1879, Z. Wiss. Zool., Leipzig, 32: 216. Type(s): Not stated or known to exist. Type locality: Not stated, but implied to be from Mexico. Synonymy (with *Ambystoma tigrinum*) by Cope, 1889, Bull. U.S. Natl. Mus., 34: 68; synonymy (with *Ambystoma mexicanum*) by Smith, 1969, BioScience, 19: 596.
- *Ambystoma mexicanum* — Garman, 1884, Bull. Essex Inst., 16: 36, by implication.
- *Siredon edule*Dugès, 1888, Naturaleza, Ser. 2, 1: 144. Types: Not stated or known to exist, according to Smith and Necker, 1943, An. Esc. Nac. Cienc. Biol., México, 3: 214, although likely originally MDUG. Type locality: Not stated; designated as "LakeXochimilco, México" by Smith and Necker, 1943, An. Esc. Nac. Cienc. Biol., México, 3: 214, who made the synonymy.
- *Ambystoma edule*Dugès, 1888, Naturaleza, Ser. 2, 1: 144. Alternative name for *Siredon edule*.
- *Ambystoma mexicanum* — Lafrentz, 1930, Abh. Ber. Mus. Nat. Heimatkd. Magdeburg, 6: 95.
- *Ambystoma (Ambystoma) mexicanum* — Tihen, 1958, Bull. Florida State Mus., Biol. Sci., 3: 3, 37.
- *Siredon alba* — Smith, 1969, BioScience, 19: 596.
- *Ambystoma (Heterotriton) mexicanum* — Dubois and Raffaëlli, 2012, Alytes, 28: 77-161.

**Distribution:** Originally in Lakes Xochimilco and Chalco (and presumably in the connecting lakes Texcoco and Zumpango), Valley of Mexico; known currently only from the southern remnants of LakeXochimilco.

**Comment:** See Smith and Smith, 1971, Synops. Herpetofauna Mex., 1, and Smith and Smith, 1993, Synops. Herpetofauna Mex., 7 for access to all of the literature. Highton, 2000, *in* Bruce et al., Biol. Plethodontid Salamanders: 221, suggested that populations of *Ambystoma mavortium*, *Ambystoma flavipiperatum*, *Ambystoma andersoni*, *Ambystoma amblycephalum*, and *Ambystoma taylori* (i.e., populations from the Rocky Mountains, Great Plains, Sierra Madre Oriental of Mexico, and the central and eastern Mexican Plateau) were likely one species for which the oldest name would be *Ambystoma mexicanum*. Raffaëlli, 2007, Les Urodèles du Monde: 86-87, provided a brief account, figure, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 546. Contreras, Martínez-Meyer, Valiente, and Zambrano, 2009, Biol. Conserv., 142: 2881-2885, reported on the critical population decline and near extinction of this species.

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# CRYPTOBRANCHIDAE

## Genus: *Andrias* Tschudi, 1837

### *Andrias davidianus* (Blanchard, 1871)

- *Sieboldia davidiana*Blanchard, 1871, C. R. Hebd. Séances Acad. Sci., Paris, 73: 79. Holotype: MNHNP 7613 (from 'Thibet oriental'), according to Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 6. See also Thireau, 1986, Cat. Types Urodeles Mus. Natl. Hist. Nat., Rev. Crit.: 27, who discussed other specimens erroneously considered types. Type locality: "Thibet orientale"; given as "Tchong-pa" (= Zhongba, now Jiangyou County, Sichuan Province), China by David, 1875, J. Trois. Voy. Explor. Emp. Chinoise, 2: 20, and Thireau, 1986, Cat. Types Urodeles Mus. Natl. Hist. Nat., Rev. Crit.: 27.
- *Sieboldia davidi* — David, 1875, J. Trois. Voy. Explor. Emp. Chinoise, 1: 326. Incorrect subsequent spelling.
- *Megalobatrachus sligoi*Boulenger, 1924, Proc. Zool. Soc. London, 1924: 173. Holotype: Deposition not stated; BMNH 1945.11.7.1. (formerly II.1.1.1.a) according to Brame, 1972, Checklist Living & Fossil Salamand. World (Unpubl. MS): 25. Type locality: uncertain; presumed in the original to have come from the Chinese mainland near Hong Kong. Synonymy by Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 110.
- *Megalobatrachus japonicus davidi* — Chang, 1935, Bull. Soc. Zool. France, 60: 350. Chang, 1936, Contr. Etude Morphol. Biol. Syst. Amph. Urodeles Chine: 82. Incorrect subsequent spelling.
- *Megalobatrachus japonicus davidianus* — Pope and Boring, 1940, Peking Nat. Hist. Bull., 15: 18.
- *Megalobatrachus davidianus* — Liu, 1950, Fieldiana, Zool. Mem., 2: 69.
- *Andrias scheuchzeri davidiana* — Westphal, 1958, Palaeontographica, Abt. A,, 110: 36.
- *Andrias davidianus* — Brame, 1967, Herpeton, California, 2: 5. Estes, 1981, Handb. Palaeoherpetol., 2: 14.
- *Cryptobranchus davidianus* — Naylor, 1981, Copeia, 1981: 76-86.

**Distribution:** The mountain streams of China, from Qinghai to Gansu, southern Shanxi and south to Sichuan, Yunnan, Guangxi, and Guangdong, 100–1500 m elevation; likely introduced into Taiwan.

**Comment:** Synonymy and review (as *Megalobatrachus davidianus*) in Liu, 1950, Fieldiana, Zool. Mem., 2: 69-77.See accounts by Yang, 1991, Amph. Fauna of Yunnan: 28-30; Ye, Fei, and Hu, 1993, Rare and Economic Amph. China: 65; Fei, 1999, Atlas Amph. China: 38; Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 147-149; Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 244-253; and Raffaëlli, 2007, Les Urodèles du Monde: 67-68. Huang, 1990, Fauna Zhejiang, Amph. Rept.: 17-18, provided an account for Zhejiang (as *Megalobatrachus davidianus*). Zhang and Wen, 2000, Amph. Guangxi: 19, provided an account for population in Guangxi, China. Fan, Guo, and Liu, 1998, Amph. Rept. Shanxi Prov.: 43-44, provided an account and the records for Shanxi, China. See also brief

account by Zhao and Yang, 1997, Amph. Rept. Hengduan Mountains Region: 32. Zhao and Adler, 1993, Herpetol. China: 110, discussed the Taiwanese specimens. Lever, 2003, Naturalized Rept. Amph. World: 227, regarded the Taiwan population as introduced. Tao, Wang, Zheng, and Fang, 2005, Zool. Res., Kunming, 26: 162-167, reported on the genetic structure of four geographic populations of the species. Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 16-17, provided a brief account for Yunnan, China. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 547. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 71, provided a brief account including photographs of specimen. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 77, provided an account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 86, provided a brief account, photo, and map.

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***Andrias japonicus* (Temminck, 1836)**

- *Triton japonicus*Temminck, 1836, Coup d'oeil sur la Fauna des Îles de la Sonde et de l'Empire du Japon: xxvi. Syntypes: RMNH and (according to Thireau, 1986, Cat. Types Urodeles Mus. Natl. Hist. Nat., Rev. Crit.: 33) MNHNP 7614; including RMNH 2392, 2394, and 18562, and MNHNP 7614, according to Gassó Miracle, van den Hoek Ostende, and Arntzen, 2007, Zootaxa, 1482: 48; RMNH 2392 designated lectotype by Hoogmoed, 1978, Zool. Meded., Leiden, 53: 102. Type locality: "Japon"; invalidly restricted to "Iga, Honshû", Japan, by Okada, 1934, Copeia, 1934: 16, inasmuch this was not based on evidence. Hoogmoed, 1978, Zool. Meded., Leiden, 53: 102, noted that the data associated with the original specimen(s) are: Sakanost'a, a small village at the foot of the "mont Souzouga yama à 15 *Ri* environ à l´est de Miyako" and . . . . The mountains are here called 'Suzuka' and are in the province of Omi, 'on the way from Tsuchiyama to Sakanoshita'. It is not clear which of the specimens of the type series is from that locality, but it seems prudent to take this locality as the type locality."
- *Megalobatrachus sieboldi*Tschudi, 1837, Neues Jahrb. Minerl. Geognos. Geol. Petrfakt.-Kunde, Stuttgart, 5: 547. Syntypes: RMNH 2392, 2394, and 18562, and MNHNP 7614according to Gassó Miracle, van den Hoek Ostende, and Arntzen, 2007, Zootaxa, 1482: 48; RMNH 2392 designated lectotype by Hoogmoed, 1978, Zool. Meded., Leiden, 53: 102. Type locality: Japan. Synonymy by Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 6. Possibly a substitute name rather than a new name. Synonymy (with *Seiboldia maxima*) by Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 52; (with *Megalobatrachus maximus*) by Boulenger, 1882, Cat. Batr. Grad. Batr. Apoda Coll. Brit. Mus., Ed. 2: 77.
- *Salamandra maxima* Schlegel *In*Tschudi, 1837, Neues Jahrb. Minerl. Geognos. Geol. Petrfakt.-Kunde, Stuttgart, 5: 546. Syntypes: MNHNP and RMNH, and presumably animal figured by Temminck and Schlegel, 1838, Fauna Japonica, 3: Pl. 8; including RMNH 2392, 2394, and 18562, and MNHNP 7614, according to Gassó Miracle, van den Hoek Ostende, and Arntzen, 2007, Zootaxa, 1482: 56; RMNH 2392 designated lectotype by Hoogmoed, 1978, Zool. Meded., Leiden, 53: 102. See discussion by Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 291, of the types and type localities. Type localities: "Sakanosta", "monts Suzuga jama" (near Sakanosta), and "mont Okude" according to Temminck and Schlegel, 1838, Fauna Japonica, 3: 134-135. Synonymy by Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 6. Synonymy (with *Seiboldia maxima*) by Leuckart, 1840, Froriep's Neue Notizen, 13: 19-20; Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 52. See discussion of types and publication dates by Thireau, 1986, Cat. Types Urodeles Mus. Natl. Hist. Nat., Rev. Crit.: 39.
- *Cryptobranchus japonicus* — Van der Hoeven, 1838, Tijdschr. Natuurl. Geschied., 4: 384. Naylor, 1981, Copeia, 1981: 76-86
- *Hydrosalamandra siboldi* — Leuckart, 1840, Froriep's Neue Notizen, 13: 20. Incorrect subsequent spelling.
- *Hydrosalamandra japonica* — Leuckart, 1840, Froriep's Neue Notizen, 13: 19-20.
- *Sieboldia maxima* — Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 52.
- *Salamandra gigas*Duméril, Bibron, and Duméril, 1854, Erp. Gen., 9: 164. *Lapsus calami* for *Salamandra maxima* Schlegel.
- *Tritomegas sieboldii* — Duméril, Bibron, and Duméril, 1854, Erp. Gen., 9: 164.
- *Tritomegas sieboldtii* — Duméril, Bibron, and Duméril, 1854, Erp. Gen., 9: 426. Incorrect subsequent spelling.
- *Salamandra (Megalobatrachus) maxima* — Schlegel, 1858, Handl. Dierkd., 2: 61.
- *Megalobatrachus maximus* — Boulenger, 1882, Cat. Batr. Grad. Batr. Apoda Coll. Brit. Mus., Ed. 2: 80.

- *Cryptobranchus maximus* — Chapman, 1893, Proc. Acad. Nat. Sci. Philadelphia, 45: 227.
- *Andrias japonicus* — Lapparent, 1900, Traite Geol., 3: 1532. Estes, 1981, Handb. Palaeoherpetol., 2: 14.
- *Megalobatrachus japonicus* — Beddard, 1904 "1903", Proc. Zool. Soc. London, 1903: 298. Sato, 1943, Monogr. Tailed Batr. Japan: 322-346; Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 106.
- *Sieboldiana maxima* — Ishikawa, 1904, Proc. Dept. Nat. Hist. Tokyo Imp. Mus., 1: 21. Incorrect subsequent spelling of generic name.
- *Cryptobranchus sieboldia* — Calmette, 1907, Les Venins: 330. Incorrect subsequent spelling.
- *Megalobatrachus japonicus japonicus* — Chang, 1936, Contr. Etude Morphol. Biol. Syst. Amph. Urodeles Chine: 82.
- *Andrias scheuchzeri japonicus* — Westphal, 1958, Palaeontographica, Abt. A,, 110: 26.

**Distribution:** Southwestern portion of the Island of Honshu northeast to the Prefecture of Gifu, the island Shikoku, and on the Island of Kyushu only in the Prefecture of Oita, Japan; possibly in Far East Russia (see comment).

**Comment:** Reviewed (as *Megalobatrachus japonicus*) by Sato, 1943, Monogr. Tailed Batr. Japan: 322-346. See Hoogmoed, 1978, Zool. Meded., Leiden, 53: 92, for discussion of the obscure description. Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 142-147, and Goris and Maeda, 2004, Guide Amph. Rept. Japan: 5-7, provided accounts. Kuzmin and Maslova, 2003, Adv. Amph. Res. Former Soviet Union, 8: 344-345, noted the possible occurrence of this taxon in the vicinity of Vladivostok, Far East Russia. Raffaëlli, 2007, Les Urodèles du Monde: 67, provided a brief account. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 85, provided a brief account, photo, and map.

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## Genus: *Cryptobranchus* Leuckart, 1821

### *Cryptobranchus alleganiensis* (Sonnini de Manoncourt and Latreille, 1801)

- *Salamandra alleganiensis*Sonnini de Manoncourt and Latreille, 1801 "An. X", Hist. Nat. Rept., 4: 406. Holotype: animal figured in Sonnini de Manoncourt and Latreille, 1801 "An. X", Hist. Nat. Rept., 2: figure preceding p. 253, of a specimen in the MNHNP, now lost. Type locality: "Virginie sur les montagnes Alléganis"; corrected to "vicinity of Davenport's Plantation", North Toe River, 1 mile south of the mouth of the Bushy Creek and 4 miles east-northeast of the Spruce Pine Creek, Mitchell County, North Carolina", USA, by Harper, 1940, Am. Midl. Nat., 23: 721. See Dundee, 1971, Cat. Am. Amph. Rept., 101: 3, for discussion of the type locality. See Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 49, for discussion of the original description, the publication date of which they give as 1802, although Harper, 1940, Am. Midl. Nat., 23: 692–723, suggests that it was published in 1801.
- *Tritonalleghaniensis*Daudin, 1803 "An. XI", Hist. Nat. Gen. Part. Rept., 8: 231. Incorrect subsequent spelling.
- *Salamandra horrida*Barton, 1808, Some Account of *Siren lacertina*: 8. Type(s): Not stated or known to exist although the animal figured by Barton, 1814 "1812", Mem. Animal Class Rept. Amph.: 15, is presumably of the type. Type locality: "in the great lakes of our country, in the waters of the Ohio, and Susquehanna [rivers], and other parts of the United States", USA; restricted to the "Muskingum River, Ohio", USA, by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 11. This restriction deemed invalid by Fouquette and Dubois, 2014, Checklist N.A. Amph. Rept., 1(Amph.): 48, as not being based on a neotype designation or evidence. Synonymy by Harlan, 1827, J. Acad. Nat. Sci. Philadelphia, 5: 320.
- *Salamandra gigantea*Barton, 1808, Some Account of *Siren lacertina*: 8. Substitute name for *Salamandra horrida* Barton, 1808. Synonymy by Harlan, 1825, Ann. Lyc. Nat. Hist. New York, 1: 271; Harlan, 1827, J. Acad. Nat. Sci. Philadelphia, 5: 320; Harlan, 1835, Med. Phys. Res.: 87.
- *Salamandra maxima*Barton, 1808, Some Account of *Siren lacertina*: 8. Substitute name for *Salamandra horrida* Barton, 1808.
- *Triton alleganiensis* — Oppel, 1811, Ordn. Fam. Gatt. Rept.: 81.
- *Molge gigantea* — Merrem, 1820, Tent. Syst. Amph.: 187. Synonymy by Harlan, 1835, Med. Phys. Res.: 87.
- *Cryptobranchus salamandroides*Leuckart, 1821, Isis von Oken, 9: 260. Substitute name for *Salamandra gigantea* Barton, 1808.

- *Urotropis mucronata*Rafinesque, 1822, Kentucky Gazette, Lexington, N.S.,, 1: 3. Type(s): Not designated or known to exist. Type locality: "the Kentucky river", Kentucky, USA. Synonymy by Brame, 1972, Checklist Living & Fossil Salamand. World (Unpubl. MS): 28.
- *Protonopsis horrida* —Barton *In*Le Conte, 1824, Ann. Lyc. Nat. Hist. New York, 1: 57; Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 53.
- *Abranchus alleghaniensis* — Harlan, 1825, Ann. Lyc. Nat. Hist. New York, 1: 233. Incorrect subsequent spelling of species name.
- *Menopoma alleghaniensis* — Harlan, 1825, Ann. Lyc. Nat. Hist. New York, 1: 271. Incorrect subsequent spelling of species name.
- *Salamandra alleganensis* — Gray, 1825, Ann. Philos., London, Ser. 2, 10: 217. Incorrect subsequent spelling of species name.
- *Abranchus alleganensis* — Gray, 1825, Ann. Philos., London, Ser. 2, 10: 217. Incorrect subsequent spelling of species name.
- *Salamandrops giganteus* — Wagler, 1830, Nat. Syst. Amph.: 209; Leunis, 1844, Synops. Drei Naturr., Zool., Ed. 1: 148.
- *Salamandrops alleghaniensis* — Wagler, 1830, Nat. Syst. Amph.: 209. Incorrect subsequent spelling of the species name.
- *Abranchus horrida* — Gray, 1831, *in* Cuvier, Animal Kingdom (Griffith), 9—Appendix: 109.
- *Eurycea mucronata* — Rafinesque, 1832, Atlantic. J. and Friend of Knowledge, Philadelphia, 1: 121.
- *Amphiuma (Menopoma) gigantea* — Van der Hoeven, 1833, Handb. Dierkd., 2: 304, by implication.
- *Cryptobranchus alleghaniensis* — Van der Hoeven, 1838, Tijdschr. Natuurl. Geschied., 4: 384; Cope, 1889, Bull. U.S. Natl. Mus., 34: 38. Incorrect subsequent spelling of the species name.
- *Menopoma gigantea* — Tschudi, 1838, Classif. Batr.: 96.
- *Salamandra alleghanensis* — Tschudi, 1838, Classif. Batr.: 96. Incorrect subsequent spelling of species name.
- *Cryptobranchus alleghaniensis* — Van der Hoeven, 1838, Tijdschr. Natuurl. Geschied., 4: 384.
- *Menopoma fusca*Holbrook, 1842, N. Am. Herpetol., Ed. 2, 5: 99. Types: Specimen figured on pl. 33 of the original publication. Type locality: "waters of French Broad . . . of Ashville, Buncomb county, North Carolina", USA. Synonymy by by Dundee, 1971, Cat. Am. Amph. Rept., 101: 1.
- *Triton alleghaniensis* — Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 54. Error.
- *Protonopsis fusca* — Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 54.
- *Salamandra alleghaniensis* — Gray, 1850, Cat. Spec. Amph. Coll. Brit. Mus., Batr. Grad.: 53. Incorrect subsequent spelling in synonymy of species name.
- *Salamandra (Menopoma) gigantea* — Schlegel, 1858, Handl. Dierkd., 2: 61.
- *Menopoma alleghaniense*Knauer, 1878, Naturgesch. Lurche: 96. Incorrect subsequent spelling.
- *Menopoma fuscum* — Yarrow, 1882, Bull. U.S. Natl. Mus., 24: 20.
- *Menopoma alleghaniense* — Davis and Rice, 1883, Bull. Chicago Acad. Sci., 1: 26. Incorrect subsequent spelling of the species name.
- *Cryptobranchus alleganiensis* — Garman, 1884, Bull. Essex Inst., 16: 36, by implication; Fowler and Dunn, 1917, Proc. Acad. Nat. Sci. Philadelphia, 69: 8.
- *Cryptobranchus fuscus* — Garman, 1884, Bull. Essex Inst., 16: 36, by implication.
- *Cryptobranchus terassodactylos*Wellborn, 1936, Zool. Anz., 114: 63–64. Holotype: ZMB 9639, according to Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 290. Type locality: "Nordamerika". Restricted to "AlleghenyMountain in Virginia", USA by Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 11. Synonymy by Grobman, 1943, Occas. Pap. Mus. Zool. Univ. Michigan, 470: 5.
- *Cryptobranchus alleganiensis* — Bishop, 1943, Handb. Salamanders: 59.
- *Cryptobranchus alleganiensis alleganiensis* — Schmidt, 1953, Check List N. Am. Amph. Rept., Ed. 6: 11.
- *Cryptobranchus guildayi* Holman, 1977, Ann. Carnegie Mus., 46: 157–172/ Holotype: CM 20470, by original designation. Type locality: CumberlandCave, Allegany County, Maryland, USA. Synonymy by Bredehoeft and Schubert, 2015, J. Herpetol., 49: 157.

**Distribution:** Central and western New York south to northern Maryland and southwestn through Pennsylvania southern Ohio and western Virginia to westernmost South Carolina, northern Alabma, northeastern Mississippi, Tennessee, and Ohio River drainage of southeastern Illinois, southern Indiana, USA; isolated population in the northern Ozarks of Missouri, USA.

**Comment:** See accounts (all of which included *Cryptobranchus bishopi* as a subspecies or synonymy) by Dundee, 1971, Cat. Am. Amph. Rept., 101: 1–4; Petranka, 1998, Salamand. U.S. Canada: 140–144; Nickerson and Mays, 1972, Publ. Biol. Geol. Milwaukee Public Mus., 1: 1–106, and Phillips and Humphries, 2005, *in* Lannoo (ed.), Amph. Declines: 648–651. Crowhurst, Faries, Collantes, Briggler, Koppelman, and Eggert, 2011, Conserv. Genetics, 12: 637–646, presented evidence that the isolated population in Missouri, near but north of and allopatric to *Cryptobranchus bishopi*, is an unnamed species. Dubois and Raffaëlli, 2012, Alytes, 28: 77–161, also commented on the systematics of this species. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 83–84, provided a brief account, photo, and map. Altig and McDiarmid, 2015, Handb. Larval Amph. US and Canada: 100–101, provided an account of larval morphology.

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# HYNOBIIDAE

## Genus: *Hynobius* Tschudi, 1838

### *Hynobius amjiensis* Gu, 1992

- *Hynobius amjiensis*Gu, 1992 "1991", *in* Qian et al. (eds.), Animal Sci. Res.: 39. Holotype: HTC 90301, by original designation. Type locality: "MountLongwang natural reserve, Anji County, Zhejiang Province; altitude 1300 m", China.
- *Hynobius (Hynobius) amjiensis* — Dubois and Raffaëlli, 2012, Alytes, 28: 77-161.

**Distribution:** Known only from the Longwangshan Nature Reserve, Anji County, Zhejiang Province, China (30° 23.68′N, 119° 27.32′E), in a marshy meadow of about 7000 square meters, at the top of Longwangshan, ca. 1300 m elevation.

**Comment:** Not assigned to species group by Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 37. See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China: 29, and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 90. See Fei, 1999, Atlas Amph. China, for figure, brief account, and distribution map. In the *Hynobius leechii* group of Fei and Ye, 2005, *in* Fei et al. (eds.), Illust. Key Chinese Amph.: 30 (who only noted Chinese species). Fu, Hayes, Liu, and Zeng, 2003, Acta Zool. Sinica, 49: 585-591, provided a discussion of molecular data in support of the species distinction of this species from *Hynobius yiwuensis*. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 154-157, provided an account. See brief account by Raffaëlli, 2007, Les Urodèles du Monde: 44. See illustration, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 549. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 39, provided a brief account, photographs and illustration of specimens as well as a habitat shot. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 32–33, provided an account, photographs, and map for China. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 63, provided a brief account, photo, and map.

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## Genus: *Ranodon* Kessler, 1866

### *Ranodon sibiricus* Kessler, 1866

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Ranodon sibiricus*Kessler, 1866, Bull. Soc. Imp. Nat. Moscou, 39: 130. Syntypes: Including ZMM A-34 (one of two specimens) which was designated lectotype by Dunayev and Orlova, 1994, Russ. J. Herpetol., 1: 60. See discussion of types by Kuzmin and Thiesmeier, 2001, Adv. Amph. Res. Former Soviet Union, 6: 19. Type locality: "Umgegend von Semipalatinsk" (= neighborhood of Semipalatinsk), Russia; in error, by being outside of known distribution accoding to Kuzmin, 1999, Amph. Former Soviet Union: 118, and Kuzmin and Thiesmeier, 2001, Adv. Amph. Res. Former Soviet Union, 6: 19. Type locality discussed by Dunayev and Orlova, 1994, Russ. J. Herpetol., 1: 60, who corrected it to "environs of Kuldzha (China)"; this correction rejected by Kuzmin and Thiesmeier, 2001, Adv. Amph. Res. Former Soviet Union, 6: 20.

- *Triton (Ranodon) sibiricus* — Günther, 1867, Zool. Rec., 3: 130.
- *Ranodon Kessleri*Ballion, 1868, Bull. Soc. Imp. Nat. Moscou, 41: 140. Holotype: Not stated; see comments by Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 301. NHMW 22908 considered holotype by Häupl and Tiedemann, 1978, Kat. Wiss. Samml. Naturhist. Mus. Wien, 2: 11, and Häupl, Tiedemann, and Grillitsch, 1994, Kat. Wiss. Samml. Naturhist. Mus. Wien, 9: 15. Type locality: "Umgegend von Kapal (45° 8′ nördl. Br. 96° 47′ östt. L.)", Kazakhstan. Synonymy by Strauch, 1870, Mem. Acad. Imp. Sci. St. Petersbourg, Ser. 7, 16 (4): 66; Günther, 1871, Zool. Rec., 7: 80; Boulenger, 1882, Cat. Batr. Grad. Batr. Apoda Coll. Brit. Mus., Ed. 2: 36.
- *Ranidens sibiricus* — Boulenger, 1882, Cat. Batr. Grad. Batr. Apoda Coll. Brit. Mus., Ed. 2: 36.
- *Ranodon kozhevnikovi*Nikolskii, 1918, Fauna Rossii, Zemnovodnye: 251. Holotype: ZMM, by original designation; ZMM A-713, according to Dunayev and Orlova, 1994, Russ. J. Herpetol., 1: 61. Type locality: "Tashkent", Uzbekistan (considered unlikely by Kuzmin, 1999, Amph. Former Soviet Union: 103, and Kuzmin and Thiesmeier, 2001, Adv. Amph. Res. Former Soviet Union, 6: 22). Synonymy by Bobrinskii, 1929, Trudy Nauchno Issledovetel'skogo Institua Zoologii, 3: 19-20; Terentjev and Chernov, 1936, Brief Guide Amph. Rept. USSR: XXX; Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 92. Specimen and its provenance discussed by Dunayev and Orlova, 1994, Russ. J. Herpetol., 1: 61.
- *Ranodon sibericus* — Gee and Boring, 1929, Peking Nat. Hist. Bull., 4: 18. Incorrect subsequent spelling.

**Distribution:** Small mountain creeks with rapids streams and falls, at altitude of 15000–2500 m, in coniferous forests of the high mountains (Jungarian Ala Tau) of northwestern Xinjiang, China, and southeastern Kazakhstan, 2100–3200 m elevation.

**Comment:** See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 53; Kuzmin, 1999, Amph. Former Soviet Union: 116-124; Fei, 1999, Atlas Amph. China: 34; Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 126-131; Kuzmin and Thiesmeier, 2001, Adv. Amph. Res. Former Soviet Union, 6: 17-101, and Raffaëlli, 2007, Les Urodèles du Monde: 56-57. Distribution discussed in detail by Kuzmin, Kubykin, Thiesmeier, and Greven, 1998, Adv. Amph. Res. Former Soviet Union, 3: 1-20. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 213–218, provided an account for China. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 553. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 62–63, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 68–69, provided an account, photographs, and map for China. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 51–53, provided a brief account, photo, and range map.

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# PLETHODONTIDAE

## Genus: *Bolitoglossa* Duméril, Bibron, and Duméril, 1854

### *Bolitoglossa dofleini* (Werner, 1903)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Spelerpes Dofleini*Werner, 1903, Abh. Math. Physik. Cl. Bayer. Akad. Wiss., 22: 352. Type(s): ZSM 1288/0, lost according to Stuart, 1963, Misc. Publ. Mus. Zool. Univ. Michigan, 122: 17, and Glaw and Franzen, 2006, Spixiana, München, 29: 156. MVZ 161627 designated neotype by McCranie, Wake, and Wilson, 1996, Caribb. J. Sci., 32: 395-398. Type locality: "Guatemala"; presumably the Alta Verapaz, according to Stuart, 1943, Misc. Publ. Mus. Zool. Univ. Michigan, 56: 17. Neotype is from "Finca Volcán, 25 km (by rd.) NW Senahú, Depto. Alta Verapaz, Guatemala, elevation 875 m".
- *Oedipus schmidti*Dunn, 1924, Field Mus. Nat. Hist. Publ., Zool. Ser., 12: 96. Holotype: FMNH 4538, by original designation. Type locality: "mountains west of San Pedro, Departamento de Cortes, Honduras, at 2000 feet, on trail". Synonymy by McCranie, Wake, and Wilson, 1996, Caribb. J. Sci., 32: 395.
- *Oedipus schmidti* — Dunn, 1926, Salamanders Fam. Plethodontidae: 361.

- *Oedipus dofleini* — Stuart, 1943, Misc. Publ. Mus. Zool. Univ. Michigan, 56: 17.
- *Bolitoglossa schmidti* — Taylor, 1944, Univ. Kansas Sci. Bull., 30: 219.
- *Bolitoglossa doffleini* — Taylor, 1944, Univ. Kansas Sci. Bull., 30: 219. Incorrect subsequent spelling.
- Bolitoglossa dofleini — Stuart, 1963, Misc. Publ. Mus. Zool. Univ. Michigan, 122: 17.
- *Bolitoglossa (Pachymandra) dofleini* — Parra-Olea, García-París, and Wake, 2004, Biol. J. Linn. Soc., 81: 337.

**Distribution**: Low and moderate elevations of the Caribbean versant from extreme northern Alta Verapaz, Guatemala, and Cayo District, Belize, to north-central Honduras, 50-1370 m elevation.

**Comment**: The sole member of the *Bolitoglossa (Pachymandra) dofleini* group of Parra-Olea, García-París, and Wake, 2004, Biol. J. Linn. Soc., 81: 337. See account and discussion by McCranie, Wake, and Wilson, 1996, Caribb. J. Sci., 32: 395-398 Lee, 1996, Amph. Rept. Yucatan Peninsula: 40-41, Campbell, 1998, Amph. Rept. N. Guatemala Yucatan Belize: 37, Lee, 2000, Field Guide Amph. Rept. Maya World: 52-53, and McCranie and Wilson, 2002, Amph. Honduras: 113-115. McCranie, 2007, Herpetol. Rev., 38: 36, summarized the departmental distribution in Honduras. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 638. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 359, provided a brief account, photograph, and range map.

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# SALAMANDRIDAE

## Genus: *Cynops* Tschudi, 1838

### *Cynops ensicauda* (Hallowell, 1861)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Triton ensicauda*Hallowell, 1861 "1860", Proc. Acad. Nat. Sci. Philadelphia, 12: 494. Syntypes: USNM 7410 (3 specimens), according to Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 21-23, and Cochran, 1961, Bull. U.S. Natl. Mus., 220: 27. Type localities: "Paddyfields at the Amakarima Isle" and "Ralousima . . . the northern half of Ousima proper" (= Amami, Ryukyu Is., Japan, according to Inger, 1947, Fieldiana, Zool., 32: 316). See Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 23, for discussion of confusion surrounding the type localities.
- *Molge pyrrhogaster var. ensicauda* — Boulenger, 1887, Proc. Zool. Soc. London, 1887: 150.
- *Molge pyrrhogastra var. ensicaudatus* — Okada, 1891, Cat. Vert. Animals Japan: 65. Incorrect subsequent spelling.
- *Molge pyrrhogaster ensicauda* — Brown, 1902, Proc. Acad. Nat. Sci. Philadelphia, 54: 186.
- *Diemictylus ensicauda* — Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 21.
- *Triturus ensicaudus* — Dunn, 1918, Bull. Mus. Comp. Zool., 62: 450.
- *Triton pyrrhogaster subsp. ensicauda* — Wolterstorff, 1925, Abh. Ber. Mus. Nat. Heimatkd. Magdeburg, 4: 291.
- *Triton (Cynops) pyrrhogaster* — Wolterstorff, 1927, Bl. Aquar. Terrarienkd., Stuttgart, 19: 484.
- *Cynops ensicauda* — Wolterstorff and Herre, 1935, Arch. Naturgesch., Leipzig, N. F., 4: 224.
- *Triturus ensicauda* — Sato, 1943, Monogr. Tailed Batr. Japan: 378.
- *Triturus ensicaudus popei*Inger, 1947, Fieldiana, Zool., 32: 319. Holotype: FMNH 45039, by original designation. Type locality: "Kin, Okinawa", Ryukyu Islands, Japan.
- *Triturus ensicaudus ensicaudus* — Inger, 1947, Fieldiana, Zool., 32: 319.
- *Triturus pyrrhogaster ensicaudus* — Kawamura, 1950, J. Sci. Hiroshima Univ., B—Zool., 11: 78. by implication.
- *Triturus (Cynops) pyrrhogaster ensicaudus* — Nakamura and Ueno, 1963, Japan. Rept. Amph. Color: 19.
- *Cynops pyrrhogaster popei* — Brame, 1967, Herpeton, California, 2: 6.
- *Cynops ensicauda ensicauda* — Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 281. Dubois and Raffaëlli, 2009, Alytes, 26: 65.
- *Cynops ensicauda popei* — Dubois and Raffaëlli, 2009, Alytes, 26: 65.

**Distribution:** Amami and Okinawa Archipelagos, Ryukyu Islands, Japan.

**Comment:** See Nakamura and Ueno, 1963, Japan. Rept. Amph. Color: 19-20 (as *Triturus pyrrhogaster*), and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 312-314. for accounts. Hayashi and Matsui, 1988, Zool. Sci., Tokyo, 5: 1121-1136, suggested that *Cynops ensicauda* is genetically well differentiated from *Cynops pyrrhogaster* and that *Cynops ensicauda* formed two well-differentiated geographic groups which correspond to *Cynops ensicauda ensicauda* and *Cynops ensicauda popei*. Goris and Maeda, 2004, Guide Amph. Rept. Japan: 40-42, provided an account, map, and photograph. Raffaëlli, 2007, Les Urodèles du Monde: 125-126, provided brief accounts by subspecies, figures, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 600.

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## Genus: *Echinotriton* Nussbaum and Brodie, 1982

### *Echinotriton andersoni* (Boulenger, 1892)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton Andersoni*Boulenger, 1892, Ann. Mag. Nat. Hist., Ser. 6, 10: 304. Holotype: BMNH 1947.9.5.89 (formerly 1892.7.14.50), according to XXX; BMNH 1892.9.3.30, according to Brame, 1972, Checklist Living & Fossil Salamand. World (Unpubl. MS): 112. Type locality: "Okinawa, or GreatLooChooIsland" (= Okinawa), Ryukyu Is., Japan.
- *Echinotriton andersoni* — Nussbaum and Brodie, 1982, Herpetologica, 38: 321. Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 44.
- *Tylototriton (Echinotriton) andersoni* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 16.
- *Pleurodeles (Tylototrion) andersoni* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 142.
- *Pleurodeles (Echinotriton) andersoni* — Dubois, 1987 "1986", Alytes, 5: 11.

**Distribution:** Okinawa and Anami, Ryukyu Islands, Japan; old records from MountKuanyinshan, northern Taiwan, China.

**Comment:** Reviewed by Sato, 1943, Monogr. Tailed Batr. Japan: 349-355. See also comments by Zhao and Adler, 1993, Herpetol. China: 111. See brief account, figure, and map by Fei, 1999, Atlas Amph. China: 44. Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 231-234. Goris and Maeda, 2004, Guide Amph. Rept. Japan: 44-46, provided an account (as *Tylototriton andersoni*), map, and photograph. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 284-288, provided an account and range map for China. Raffaëlli, 2007, Les Urodèles du Monde: 148, provided a brief account, figure, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 601. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 82-83, provided a brief account including photographs of specimens and habitat. Honda, Matsui, Tominaga, Ota, and Tanaka, 2012, Mol. Phylogenet. Evol., 65: 642-653, reported on strong inter-island genetic differentiation and molecular phylogeography.

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## Genus: *Laotriton* Dubois and Raffaëlli, 2009

### *Laotriton laoensis* (Stuart and Papenfuss, 2002)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton laoensis*Stuart and Papenfuss, 2002, J. Herpetol., 36: 146. Holotype: FMNH 257856, by original designation. Type locality: "Laos (Lao PDR), Saysamboun Special Zone, in pool of Houay Sang Kat Stream (18° 52´ 49 N 103° 06´ 32 E; 1160 m elevation) at base of Phou Sang Kat mountain".
- *Laotriton laosensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 48.

**Distribution:** Xaysamboun District of VientianeProvince, Phoukhout and Pek districts of XiengkhouangProvince, and Phoukhoun District of Louangphabang Province, Laos.

**Comment:** Raffaëlli, 2007, Les Urodèles du Monde: 134-135, provided a brief account, figure, and map. Phimmachak, Stuart, and Sivongxay, 2012, J. Herpetol., 46: 120-128, discussed the range, population size, natural history, and conservation status

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## Genus: *Liangshantriton* Fei, Ye, and Jiang, 2012

### *Liangshantriton taliangensis* (Liu, 1950)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton taliangensis*Liu, 1950, Fieldiana, Zool. Mem., 2: 106. Holotype: FMNH 49388, by original designation. Type locality: "Pusakang, Fulinhsien, Sikang [now Sichuan], 8700 feet altitude", China.
- *Tylototriton (Tylototriton) taliangensis* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 9; Zhao and Yang, 1997, Amph. Rept. Hengduan Mountains Region: 33.
- *Pleurodeles (Tylototriton) taliangensis* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 141; Dubois, 1987 "1986", Alytes, 5: 11.
- *Tylototriton (Tylototriton) taliangensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Liangshantriton taliangensis* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr. : 44.

**Distribution:** Southwestern Sichuan, China, 1300–2700 m elevation.

**Comment.** See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph.China 78; Fei, 1999, Atlas Amph. China: 42; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 229-231. Fei and Ye, 2001, Color Handbook Amph. Sichuan: 95, provided a brief account and illustration. See also brief account by Zhao and Yang, 1997, Amph. Rept. Hengduan Mountains Region: 33-34. In the *Tylototriton verrucosus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 277–280, provided an account and range map. Raffaëlli, 2007, Les Urodèles du Monde: 147, provided a brief account (as *Tylototriton taliangensis*), figure, and map. See statement of geographic range, habitat, and conservation status (as *Tylototriton taliangensis*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 642. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 80, provided a brief account (as *Tylototriton taliangensis*) including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 96, provided an account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 185, provided a brief account, photograph, and map.

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## Genus: *Neurergus* Cope, 1862

### *Neurergus kaiseri* Schmidt, 1952

- *Neurergus crocatus kaiseri*Schmidt, 1952, Nat. Hist. Misc., 93: 1. Holotype: ZMUC 03184, by original designation. Type locality: "Shah Bazan, Luristan, Iran", Zagros Mountains, 1200 meters, from 10 to 15 km south of the junction of the Ab-I-Cesar and Ab-I-Diz rivers. Museum records give locality as "Locality 70: 'Good Springs' 11km N of Shah Bazan, 8 km SW of junction with Ab-i-Diz and Ab-i-Cezar river" (personal commun., H. Kristensen, 24 Nov. 2010).
- *Neurergus crocatus kaiseri* — Thorn, 1968, Salamand. Eur. Asie Afr. Nord: 273.
- *Neurergus kaiseri* — Schmidtler and Schmidtler, 1970, Senckenb. Biol., 51: 49. Schmidtler and Schmidtler, 1975, Salamandra, 11: 93.
- *Neurergus (Neurergus) kaiseri* — Dubois and Raffaëlli, 2009, Alytes, 26: 54, 66.

**Distribution:** Southern Zagros Mountains of western Iran, possibly to be found in adjacent Iraq or Turkey.

**Comment;** Schmidt, 1955, Vidensk. Medd. Dansk Naturhist. Foren., 117: 193-197, provided an augmented description. Schmidtler and Schmidtler, 1970, Senckenb. Biol., 51: 49, and Schmidtler and Schmidtler, 1975, Salamandra, 11: 93, showed *Neurergus kaiseri* to be a distinct species. Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 347, and Baloutch and Kami, 1995, Amph. Iran: 96-98, provided accounts. Raffaëlli, 2007, Les Urodèles du Monde: 119, provided a brief account, map, and photograph. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 604. Sharifi, Rastegar-Pouyani, Akmali, and Narenji, 2008, Russ. J. Herpetol., 15: 169-172, detailed the range and habitat. Özdemir, Üzüm, Avci, and Olgun, 2009, Herpetologica, 65: 280-291, suggested that *Neurergus kaiseri* is the sister taxon of *Neurergus microspilotus*. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 141–142, provided a brief account, photo, and map.

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## Genus: *Paramesotriton* Chang, 1935

### *Paramesotriton caudopunctatus* (Liu and Hu, 1973)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Trituroides caudopunctatus*Liu and Hu *in*Hu, Zhao, and Liu, 1973, Acta Zool. Sinica, 19: 160. Holotype: CIB 63II0303, by original designation. Type locality: "Fang-xiang, Lei-shan Hsien, Kweichow [= Guizhou], altitude 1158 m", China.
- *Paramesotriton caudopunctatus*— Bischoff and Böhme, 1980, Salamandra, 16: 139.
- *Paramesotriton caudomaculatus*Seidel, 1981, Aquarium, Minder, 15: 481. Syntypes: ZFMK; ZFMK 38536 designated lectotype by Böhme and Bischoff, 1984, Bonn. Zool. Monogr., 19: 174. Type locality: Unknown. Synonymy by Böhme and Bischoff, 1984, Bonn. Zool. Monogr., 19: 174.
- *Allomesotriton caudopunctatus*— Freytag, 1983, Zool. Abh. Staatl. Mus. Tierkd. Dresden, 39: 47.
- *Paramesotriton (Allomesotriton) caudopunctatus* — Pang, Jiang, and Hu, 1992, *in* Jiang (ed.), Collect. Pap. Herpetol.: 89; Dubois and Raffaëlli, 2009, Alytes, 26: 49.

**Distribution:** Southwestern Hunan and northeastern Guangxi (Fuchuan), China, 500–1800 m elevation.

**Comment:** Related to *Paramesotriton chinensis* (as *Trituroides chinensis*), according to the original publication. See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph.China 87; Fei, 1999, Atlas Amph. China: 46; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 334-336. Zhang and Wen, 2000, Amph. Guangxi: 26, provided an account for population in Guangxi, China. The sole member of the *Paramesotriton caudopunctatus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 44 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 295-301, provided an account for China.See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 642. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 84, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 109, provided an account, photographs, and map. Specimens from WulingMountains, Chonqing, China are now assigned to *Paramesotriton wulingensis*. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 165, provided a brief account, photograph, and range map.

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### *Paramesotriton chinensis* (Gray, 1859)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Cynops chinensis*Gray, 1859, Proc. Zool. Soc. London, 1859: 229. Syntypes: Not stated but BMNH 1947.9.6.14-15 (formerly 59.11.18.8-9) by museum records; BMNH 1947.9.6.15 designated lectotype by Myers and Leviton, 1962, Occas. Pap. Div. Syst. Biol. Stanford Univ., 10: 1. Type locality:"River N. E. Coast of China, inland from Ningpo", China.
- *Triton chinensis* — Strauch, 1870, Mem. Acad. Imp. Sci. St. Petersbourg, Ser. 7, 16 (4): 51.
- *Triton sinesis* — Sauvage, 1876, L'Institut, Paris, N.S.,, 4: 274. Incorrect subsequent spelling.
- *Molge sinensis* — Boulenger, 1882, Cat. Batr. Grad. Batr. Apoda Coll. Brit. Mus., Ed. 2: 20.
- *Diemictylus sinensis* — Stejneger, 1907, Bull. U.S. Natl. Mus., 58: 20.
- *Triturus sinensis* — Dunn, 1918, Bull. Mus. Comp. Zool., 62: 448.
- *Triton (Cynops) chinensis* — Wolterstorff, 1925, Abh. Ber. Mus. Nat. Heimatkd. Magdeburg, 4: 292. Based on *Paramesotriton hongkongensis* according to XXX.
- *Cynops chinensis* — Wolterstorff and Herre, 1935, Arch. Naturgesch., Leipzig, N. F., 4: 224.
- *Trituroides chinensis* — Chang, 1935, Bull. Soc. Zool. France, 60: 425. Chang, 1936, Contr. Etude Morphol. Biol. Syst. Amph. Urodeles Chine: 106.
- *Triturus sinensis boringi*Herre, 1939, Abh. Ber. Mus. Nat. Heimatkd. Magdeburg, 7: 84-85. Holotype: MM; destroyed in W.W.II. Type locality: "Linhai" (= Taichow), Zhejiang Province, China.
- *Triturus chinensis* — Pope and Boring, 1940, Peking Nat. Hist. Bull., 15: 23.
- *Paramesotriton chinensis* — Freytag, 1962, Mitt. Zool. Mus. Berlin, 38: 451-459.
- *Trituroides chinensis* — Sichuan Biological Research Institute, 1977, Syst. Key Chinese Amph.: 14.
- *Paramesotriton chinensis chinensis* — Fei, Ye, and Huang, 1990, Key to Chinese Amph.: 61-62. Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 90.
- *Triturus sinensis boringae* — Michels and Bauer, 2004, Bonn. Zool. Beitr., 52: 84. Unjustified emendation according to Dubois, 2007, Zootaxa, 1550: 67.
- *Paramesotriton (Paramesotriton) chinensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.

**Distribution:** Zhejiang and west and south into Anhui to Jiangxi, China,

**Comment:** See accounts by Karsen, Lau, and Bogadek, 1986, Hong Kong Amph. Rept.: 15; Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 88; Fei, 1999, Atlas Amph. China: 48; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 324-325. Huang, 1990, Fauna Zhejiang, Amph. Rept.: 22-23, provided an account (as *Trituroides chinensis*) for Zhejiang. In the *Paramesotriton chinensis* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 45 (although they only addressed Chinese species). Raffaëlli, 2007, Les Urodèles du Monde: 130, provided a brief account, figure, and map. Wu, Rovito, Papenfuss, and Hanken, 2009, Zootaxa, 2060: 59-68, noted that the Guangxi population is now referred to *Paramesotriton ermizhaoi*. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 86-87, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 112, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 158–159, provided a brief account, range map, and photograph and noted that records from Guangxi, China, are referrable to *Paramesotriton longliensis* and *Paramesotriton zhijinensis*.

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### *Paramesotriton deloustali* (Bourret, 1934)

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Mesotriton deloustali*Bourret, 1934, Annexe Bull. Gen. Instr. Publique, Hanoi, 1934: 84. Syntypes: Not stated; LZUH 226, 228, 257, and 287 according to Brame, 1972, Checklist Living & Fossil Salamand. World (Unpubl. MS): 66; these now MNHNP 1935.119, and possibly MNHNP 1935.120, 1948.110-111 according to Thireau, 1986, Cat. Types Urodeles Mus. Natl. Hist. Nat., Rev. Crit.: 28-29; Guibé, 1950 "1948", Cat. Types Amph. Mus. Natl. Hist. Nat.: 9, reported MNHNP 1935.119 as a 'paratype'. Bour, Ohler, and Dubois, 2009, Alytes, 26: 153-166, discussed the tortured literature history and related errors and concluded that MNHNP 1935.119-120 and 1948.110 are unquestionably syntypes of which they designated 1935.119 as lectotype. Type locality: "Tam-Dao, à 900 m d'altitude", Tonkin, Vietnam;

corrected to "the torrent of the hill station of Tam Dao (. . . ), province of Vinh Phuc, Vietnam (at an altitute of approximately 900 meters . . .".
- *Pachytriton deloustali* — Chang, 1935, Bull. Mus. Natl. Hist. Nat. Paris, Ser. 2, 7: 95.
- *Paramesotriton deloustali* — Chang, 1935, Bull. Soc. Zool. France, 60: 425.
- *Paramesotriton (Paramesotriton) deloustali* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.

**Distribution:** Montane regions of northern Vietnam in the provinces of Lao Cai, Ha Giang, Tuyen Quang, Bac Kan, Quang Ninh and Vinh Phuc, 600–1900 m elevations; expected in adjacent Yunnan, China.

**Comment:** See accounts by Bourret, 1942, Batr. Indochine: 148-150; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 331-334. Orlov, Murphy, Ananjeva, Ryabov, and Ho, 2002, Russ. J. Herpetol., 9: 100, commented on the range. Nguyen, Ho, and Nguyen, 2005, Checklist Amph. Rept. Vietnam: 147, provided a photograph. Raffaëlli, 2007, Les Urodèles du Monde: 132-133, provided a brief account, figure, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 605. Nguyen, Nguyen, Hồ, Lê, and Nguyen, 2009, Tạp chí Công nghệ Sinh học, 7: 325-333, reported on the species in Vietnam. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 161, provided a brief account, range map, and photograph and suggested that the population reported from Lao Cai, Vietnam, represents and unnamed species.

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***Paramesotriton fuzhongensis* Wen, 1989**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton fuzhongensis*Wen, 1989, Chinese Herpetol. Res., 2: 15. Holotype: GXMU 81-021, by original designation. Type locality: "Gupo Hill, Wanggao (24°35´N 111°25´E), Zhongshan Xian (county), Guangxi Autonomous Region, China, altitude 400 m".
- *Paramesotriton (Paramesotriton) fuzhongensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.

**Distribution:** Northeastern Guangxi (Zhongshan, Fuchuan, and Gongchen counties), China, 400–1200 m elevation.

**Comment:** Similar to *Paramesotriton guanxiensis* according to the original publication. See accounts by Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 326-328, and Zhang and Wen, 2000, Amph. Guangxi: 29. Lü, Yuan, Pang, Yang, Yu, McGuire, Xie, and Zhang, 2004, Biochem. Genet., 42: 139-148, provided molecular data in support of the distinctiveness of this species. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 605. Gu, Wang, Chen, Tian, and Li, 2012, Zootaxa, 3150: 59-68, suggested that this species is closely related to *Paramesotriton guangxiensis*. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 111, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 160, provided a brief account, range map, and photograph.

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***Paramesotriton guangxiensis* (Huang, Tang, and Tang, 1983)**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Trituroides guangxiensis*Huang, Tang, and Tang, 1983, Acta Herpetol. Sinica, Chengdu, N.S.,, 2 (2): 37. Holotype: FU 81501, by original designation. Type locality: "Paiyang shan, Mingjiang People's Commune, NingmingCounty, Guangxi Zhuang Autonomous Region, altitude 478 m", China.
- *Trituroides guanxiensis* Huang, Tang, and Tang, 1983, Acta Herpetol. Sinica, Chengdu, N.S.,, 2 (2): 37. Incorrect original spelling in English abstract.
- *Paramesotriton guangxiensis* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 10.
- *Paramesotriton guangxiensis* — Zhang and Wen, 2000, Amph. Guangxi: 28.

- *Paramesotriton (Paramesotriton) guangxiensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.

**Distribution:** Type locality (Paiyangshan, Guangxi, China), ca. 470 m elevation; northeastern part of Cao Bang Province, Vietnam.

**Comment:** Related to *Paramesotriton chinesis* (as *Trituroides chinensis*) according to the original publication. See comment under *Paramesotriton fuzhonensis*. See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 91, Fei, 1999, Atlas Amph. China: 50; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 328-329. Zhang and Wen, 2000, Amph. Guangxi: 28, provided an account (as *Paramesotriton guangxiensis*). Orlov, Murphy, Ananjeva, Ryabov, and Ho, 2002, Russ. J. Herpetol., 9: 101, provided the Vietnam component of the range statement but did not cite voucher specimens. Nguyen, Ho, and Nguyen, 2005, Checklist Amph. Rept. Vietnam: 9, noted the Vietnamese locality as Nguyen Binh, Cao Bang. In the *Paramesotriton chinensis* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 45 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 310-313, provided an account and range map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 605. Nguyen, Nguyen, Hồ, Lê, and Nguyen, 2009, Tạp chí Công nghệ Sinh học, 7: 325-333, discussed the species in Vietnam. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 88, provided a brief account including photographs. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 110, provided an account, photographs, and map for China. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 161, provided a brief account, range map, and photograph.

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***Paramesotriton hongkongensis* (Myers and Leviton, 1962)**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Trituroides hongkongensis*Myers and Leviton, 1962, Occas. Pap. Div. Syst. Biol. Stanford Univ., 10: 1. Holotype: CAS-SU 6378, by original designation. Type locality: "a mountain stream, on the Peak, Hong KongIsland", China.
- *Paramesotriton hongkongensis* — Freytag, 1962, Mitt. Zool. Mus. Berlin, 38: 451–459; Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 45.
- *Paramesotriton chinensis hongkongensis* — Fei, Ye, and Huang, 1990, Key to Chinese Amph.: 61–62; Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 90.
- *Paramesotriton (Paramesotriton) hongkongensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.

**Distribution:** Northern (Huizhou and Logmen) central (Dongguan) and coastal Guangdong adjacent to and including Hongkong, ca. 90–940 m elevation.

**Comment:** Removed from the synonymy of *Paramesotriton chensis* by Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 45, where it had been placed by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 90. See account by Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 329-331. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 306-310, provided an account and range map. See statement of geographic range, habitat, and conservation status (for nominal *Paramesotriton hongkongensis*) in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 642. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 85, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 114-115, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 159–160, provided a brief account, range map, and photograph. Jono, Nishikawa, Ding, and Tang, 2014, Herpetol. Rev., 651: 651, provided a range extension to Longyandong Forest Park in Dongguan, Guangdong, China, and briefly discussed the range.

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***Paramesotriton labiatus* (Unterstein, 1930)**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Molge labiatum*Unterstein, 1930, Sitzungsber. Ges. Naturforsch. Freunde Berlin, 1930: 313. Syntypes: ZMB (4 specimens); ZMB 34087 considered holotype by Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 296. Type locality: "Kwangsi" (= Guangxi), China. Fan, 1931, Bull. Dept. Biol. Coll. Sci. Sun Yatsen Univ., 11: 2, describing the expedition from whence the types came noted that "The main place from where the great majority of our specimens were secured, was a village named Loshiang () . . . . It is surrounded by lofty peaks no less than 3,000 ft. Streams run here and there through the junglewoods of a typical subtopical character . . . ." So, most likely the types came from Loshiang or its vicinity. Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 296, noted that data with the holotype were "Yao Shan [= Mt.Yao], Kwangsi Prov. [= Guangxi Zhuang Autonomous Region], China".
- *Pachytriton brevipes labiatus* — Hu, Zhao, and Liu, 1973, Acta Zool. Sinica, 19: 149-178. Presumably based on specimens of *Pachytrion inexpectatus*.
- *Pachytriton labiatus* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 10. Presumably based on specimens of *Pachytrion inexpectatus*.
- *Pachytriton labiatus* — Zhao, Hu, Jiang, and Yang, 1988, Studies on Chinese Salamanders: 16-18. Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 46. Presumably based on specimens of *Pachytrion inexpectatus*.
- *Paramesotriton ermizhaoi*Wu, Rovito, Papenfuss, and Hanken, 2009, Zootaxa, 2060: 64. Holotype: CIB 88141, by original designation. Type locality: "Mt.Dayao (24°07´N, 110°13´E, 881m elevation), JinxiuYaoAutonomousCounty, Guangxi Zhuang Autonomous Region, P. R. China". Synonymy by Nishikawa, Jiang, Matsui, and Mo, 2011, Zool. Sci., Tokyo, 28: 458.
- *Paramesotriton labiatus* — Nishikawa, Jiang, Matsui, and Mo, 2011, Zool. Sci., Tokyo, 28: 457.

**Distribution:** Known from MountDayao, Jinxiu Yao Autonomous County, Guangxi Zhuang Autonomous Region, China.

**Comment:** Confused with *Paramesotriton chinensis* previous to its recognition according to the original publication. Zhang and Wen, 2000, Amph. Guangxi: 27, provided an account for this species (as *Paramesotriton chinensis*) in Guangxi, China. Nishikawa, Jiang, Matsui, and Mo, 2011, Zool. Sci., Tokyo, 28: 453-461, discovered a confusing situation where most of what had been referred to as the northeastern population of *Pachytriton labiatus* should have the name *Pachytriton granulosus* applied; the southwestern population of former *Pachytriton labiatus* was a distinct species, which they name *Pachytriton inexpectatus*, and the types of nominal *Pachytriton labiatus* were conspecific with what had been named *Paramesotriton ermizhaoi* and not with the populations that had had the name *Pachytriton labiatus* applied for so long. All literature prior to 2011 should be used with great caution because of this. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 163, provided a brief account, range map, and photograph.

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***Paramesotriton longliensis* Li, Tian, Gu, and Xiong, 2008**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton longliensis*Li, Tian, Gu, and Xiong, 2008, Zool. Res., Kunming, 29: 313. Holotype: LTHC 0705015, by original designation. Type locality: Shuichang village, Longli County, Guizhou Province, 26°26´57.4N, 107°00´0.1E, China, 1142 m elevation.
- *Paramesotriton (Paramesotriton) longliensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.
- *Paramesotriton (Allomesotriton) longliensis* — Gu, Wang, Chen, Tian, and Li, 2012, Zootaxa, 3150: 59.

**Distribution:** Known from the type locality (Shiuchang village, Longli County, Guizhou, China, 1142 m elevation) and from Shizilu village, Xianfeng county, Hubei, China.

**Comment:** Fei, Hu, Ye, and Huang, 2009, Fauna Sinica, Amph. 3: 1620-1625, provided an account , figures, and range map. Wu, Jiang, and Hanken, 2010, Zootaxa, 2494: 55-56, reported a population from near Shizilu village, Xianfeng county, Hubei, China. Fei, Ye, and Jiang, 2010, Colored

Atlas of Chinese Amph.: 89, provided a brief account including photographs. Gu, Wang, Chen, Tian, and Li, 2012, Zootaxa, 3150: 59-68, transferred this species to *Allomesotriton*, the former *Paramesotriton caudopunctatus* group. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 116, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 165, provided a brief account, photograph, and range map.

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***Paramesotriton maolanensis* Gu, Chen, Tian, Li, and Ran, 2012**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton (Allomesotriton) maolanensis*Gu, Chen, Tian, Li, and Ran, 2012, Zootaxa, 3510: 41. Holotype: GZNU 2006030001, by original designation. Type locality: "Wengang, 25° 40′ N 107° 53′ E, 817m a.s.l., Libo County, Guizhou Province, P. R. China".

**Distribution:** Known currently only from the Maolan National Nature Reserve in LiboCounty in southern Guizhou, China.

**Comment:** Suggested to be the sister taxon of *Paramesotriton longliensis* in the original publication.

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***Paramesotriton qixilingensis* Yan, Zhao, Jiang, Hou, He, Murphy, and Che, 2014**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton qixilingensis*Yuan, Zhao, Jiang, Hou, He, Murphy, and Che, 2014, Asian Herpetol. Res., 5: 72. Holotype. KIZ 022289, by original designation. Type locality: "Mt.Shenyuan, Qixiling Nature Reserve, Yongxin county, Ji'an, Jiangxi, China (26.75° N, 114.17° E; elevation 194 m)".

**Distribution:** Known only from the type locality in the Qixling Nature Reserve, MountShenyuan, YongxinCounty, Ji'an, Jiangxi, China, 1924 m elevation.

**Comment:** The sister taxon of *Paramesotriton chinensis* according to the original publication.

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***Paramesotriton wulingensis* Wang, Tian, and Gu, 2013**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton wulingensis* Wang, Tian, and Gu, 2013, Acta Zootaxon. Sinica, 38: XXX. Holotype: LPS 20110719, by original designation. Type locality: Youyang, Chongqing, China (29° 18′ N, 108° 57′ E).
- *Paramesotriton (Paramesotriton) wulingensis* — Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 164.

**Distribution:** Wuling mountains of southeastern Chongqing and eastern Guizhou, presumably into extreme western Hunan, China, 500–1800 m elevation.

**Comment:** Confused with *Paramesotriton caudopunctatus* according to the original publication. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 164, provided a brief account, range map, and photograph.

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***Paramesotriton yunwuensis* Wu, Jiang, and Hanken, 2010**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton yunwuensis*Wu, Jiang, and Hanken, 2010, Zootaxa, 2494: 51. Holotype: CIB 97854, by original designation. Type locality: "pool along a montane stream (22° 37′ N, 111° 10′ E; 525 m elevation) near Nanchong village, Fuhe, Luoding city, Guangdong province, P. R. China".
- *Paramesotriton (Paramesotriton) yunwuensis* — Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 162.

**Distribution:** Montane streams of Yunwe Mountains, Guangdong Province, China.

**Comment:** Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 118–119, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 162–163, provided a brief account, range map, and photograph.

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***Paramesotriton zhijinensis* Li, Tian, and Gu, 2008**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Paramesotriton zhijinensis*Li, Tian, and Gu, 2008, Acta Zootaxon. Sinica, 33: 410. Holotype: LTHC0705123, by original designation. Type locality: "Shuangyantang, Zhijin County, Guizhou Province (26° 39´ N, 105° 45´ E) with an elevation of 1310 m". (April publication data—DRF.)
- *Paramesotriton zhijinensis*Zhao, Che, Zhou, Chen, Zhao, and Zhang, 2008, Zootaxa, 1775: 56. Holotype: BJC 20070129001, by original designation. Type locality: "Shuangyan Pond (26°40´N 105°46´ E), 1310 m, Zhijin County, Guizhou Province, P. R. China". (May publication date—DRF.)
- *Paramesotriton (Paramesotriton) zhijinensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 49, 65.
- *Paramesotriton (Allomesotriton) zhijinensis* — Gu, Wang, Chen, Tian, and Li, 2012, Zootaxa, 3150: 59.

**Distribution:** Known only from the type locality (Shuangyan Pond, 1310 m elevation, Zhijin County, Guizhou Province, China).

**Comment:** There is ambiguity as to what the publication with priority is. The stated publication data of the Zhao et al paper is May and that of the Li et al. paper is April, but what the *actual* date of distribution to libraries of record is is unknown (DRF). Fei, Hu, Ye, and Huang, 2009, Fauna Sinica, Amph. 3: 1616-1620, provided an account , figures, and range map. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 90, provided a brief account including photographs. Gu, Wang, Chen, Tian, and Li, 2012, Zootaxa, 3150: 59-68, transferred this species to *Allomesotriton*, the former *Paramesotriton caudopunctatus* group. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 117, provided an account, photographs, and map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 166, provided a brief account, photograph, and range map.

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## Genus: *Salamandra* Garsault, 1764

***Salamandra algira* Bedriaga, 1883**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Salamandra maculosa* var. *algira*Bedriaga, 1883, Arch. Naturgesch., 49: 252. Type(s): Not stated or known to exist; NHMW 9251 designated neotype by Eiselt, 1958, Abh. Ber. Naturkd. Magdeburg, 10: 133. Type locality: "Mont Edough bei Bôna", Algeria; neotype from "Mt.Edough bei Bône, Algerien".
- *Salamandra salamandra algira* — Nikolskii, 1918, Fauna Rossii, Zemnovodnye: 187.
- *Salamandra algira* — Veith, 1996, Amphibia-Reptilia, 17: 174-177.

- *Salamandra algira algira* — Donaire-Barroso and Bogaerts, 2003, Podarcis, 4: 88, by implication.
- *Salamandra algira tingitana*Donaire-Barroso and Bogaerts, 2003, Podarcis, 4: 88. Holotype: MNCN 41037, by original designation. Type locality: "500 m altitude on Jabal Muse (= Jabal Mousa) north Morocco". See Beukema, de Pous, Donaire-Barroso, Bogaerts, Garcia-Porta, Escoriza, Arribas, El Mouden, and Carranza, 2013, Zootaxa, 3661: 25-26, for justification of validity as an electronic publication.
- *Salamandra algira spelaea*Escoriza and Comas, 2007, Salamandra, 43: 80. Holotype: MNCN 2005-05550, by original designation. Type locality: "Ouartass, Beni Snassen massif, Northeast-Morocco (Locality 5, at approximately 1300 m above sea level)".
- *Salamandra (Algiandra) algira algira* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Salamandra (Algiandra) algira spelaea* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Salamandra (Algiandra) tingitana* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Salamandra algira splendens* Beukema, de Pous, Donaire-Barroso, Bogaerts, Garcia-Porta, Escoriza, Arribas, El Mouden, and Carranza, 2013, Zootaxa, 3661: 26. Holotype: RMNH 40173, by original designation. Type locality: "Aïn Tissimilan, Jebel el Kelaâ, Chefchaouen, western Rif Mountains, Morocco (N 35°10.5, W 5°14.6, 700 m a.s.l.)".

**Distribution:** Isolated populations in Northwest Africa in northern Morocco (including Ceuta, Spain), northern Algeria, and northern Tunisia (see comment).

**Comment:** See account by Salvador, 1996, Smithson. Herpetol. Inform. Serv., 109: 7. Donaire-Barroso and Bogaerts, 2003, Podarcis, 4: 84–100, discussed the systematics of this species. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 203–204, provided brief accounts by subspecies, photographs, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 606, who regarded the Tunisian record as suspect. Dubois and Raffaëlli, 2009, Alytes, 26: 35, based their taxonomic decision to recognize *Salamandra tingitana* as a distinct species on evidence provided by Steinfartz, Veith, and Tautz, 2000, Mol. Ecol., 9: 397–410, and Escoriza and Comas, 2007, Salamandra, 43: 77–90. Beukema, de Pous, Donaire-Barroso, Escoriza, Bogaerts, Toxopeus, de Bie, Roca, and Carranza, 2010, Biol. J. Linn. Soc., 101: 626–641, suggested that *Salamandra algira spelaea* is the sister taxon of *Salamandra algira algira* + *Salamandra algira tingitana*. These authors rejected the recognition of *Salamandra tingitana* as a distinct species although noting that the allopatric populations are ecologically distinctive and diagnosible. Beukema, de Pous, Donaire-Barroso, Bogaerts, Garcia-Porta, Escoriza, Arribas, El Mouden, and Carranza, 2013, Zootaxa, 3661: 22–29, discussed the geographic variation within Morocco.

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## Genus: *Tylototriton* Anderson, 1871

### *Tylototriton anguliceps* Le, Nguyen, Nishikawa, Nguyen, Pham, Matsui, Bernardes, and Nguyen, 2015

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton anguliceps*Le, Nguyen, Nishikawa, Nguyen, Pham, Matsui, Bernardes, and Nguyen, Curr. Herpetol., Kyoto, 34: 45. Holotype: HNUE A.I.1.109, by original designation. Type locality: "Muong Nhe Nature Reserve, Muong Nhe District, Dien Bien Province, Vietnam (22° 18.580′ N, 102° 11.026′ E, elevation 1704 m asl)".

**Distribution:** Reported from Doi Lahnga, Chiang Rai Province, Thailand, and Muong Nhe, Dien Bien Province, and Thuan Chau, Son La Province, northern Vietnam; likely to occur in intervening Laos and southernmost Yunnan, China.

**Comment:** Nested within the clade comprised of *Tylototriton uyenoi, Tylototriton shanjing, Tylototriton verrucosus,* and *Tylototriton yangi*, according to the original publication.

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### *Tylototriton asperrimus* Unterstein, 1930

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton asperrimus*Unterstein, 1930, Sitzungsber. Ges. Naturforsch. Freunde Berlin, 1930: 314. Syntypes: ZMB (2 specimens); ZMB 34089 considered holotype (lectotype designation by implication) by Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 298. Type locality: "Kwangsi"; corrected to "Yao Shan [= Mt.Yao], Kwangsi Prov. [= Guangxi Zhuang Autonomous Region], China" by Bauer, Good, and Günther, 1993, Mitt. Zool. Mus. Berlin, 69: 298. Fan, 1931, Bull. Dept. Biol. Coll. Sci. Sun Yatsen Univ., 11: 1-154, provided evidence that the type locality is or near to the town of Loshiang.
- *Tylototriton (Echinotriton) asperrimus* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 19.
- *Tylototriton asperrimus asperrimus* — Fei, Ye, and Yang, 1984, Acta Zool. Sinica, 30: 89.
- *Pleurodeles (Tylototrion) asperrimus asperrimus* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 142.
- *Pleurodeles (Echinotriton) asperrimus* — Dubois, 1987 "1986", Alytes, 5: 11.
- *Echinotriton asperrimus* — Zhao, 1990, *in* Zhao (ed.), From Water onto Land: 219; Nguyen, Ho, and Nguyen, 2005, Checklist Amph. Rept. Vietnam: 9.
- *Echinotriton asperrimus asperrimus* — Zhao and Adler, 1993, Herpetol. China: 112.
- *Tylototriton asperrimus* — Nussbaum, Brodie, and Yang, 1995, Herpetologica, 51: 265.
- *Tylototriton (Yaotriton) asperrimus* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Yaotriton asperrimus* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 88.

**Distribution:** Manson Mountains of Anhui, Guangxi, Guangdong, Gansu,Hunan, Sichuan, and Hubei, China; Mau Son and Lang Son areas of Ha Giang and Laco Cai provinces in northern Vietnam, 400-1700 m elevation.

**Comment:** See accounts by Bourret, 1942, Batr. Indochine: 146-148; Fang and Chang, 1932, Sinensia, Nanking, 2: 117-121; Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 72; and Fei, 1999, Atlas Amph. China: 40. See also Liu, Hu, Fei, and Huang, 1973, Acta Zool. Sinica, 19: 394. Deng and Yu, 1984, Acta Herpetol. Sinica, Chengdu, N.S.,, 3 (2): 75-77, recognize a subspecies in Sichuan. Nussbaum, Brodie, and Yang, 1995, Herpetologica, 51: 265, discussed reasons for transferring this species from *Echinotriton* to *Tylototriton*. Zhang and Wen, 2000, Amph. Guangxi: 21, provided an account for population in Guangxi, China.Bain and Nguyen, 2004, Am. Mus. Novit., 3453: 9, provided the record for Ha Giang Province, Vietnam (although these records may now be reassigned to another species). Nguyen, Ho, and Nguyen, 2005, Checklist Amph. Rept. Vietnam: 9, provided specific records for Vietnam and (p. 147) provided a photograph. In the *Tylototriton asperrimus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Böhme, Schöttler, Nguyen, and Köhler, 2005, Salamandra, 41:218-219, discussed previous confusion in Vietnam of *Tylototriton asperrimus* and *Tylototriton vietnamensis* and noted that the record for Tam Dao, northern Vietnam, may actually be referrable to *Tylototriton hainanensis*. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 257-261, provided an account. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 643. Nguyen, Nguyen, Hồ, Lê, and Nguyen, 2009, Tạp chí Công nghệ Sinh học, 7: 325-333, discussed the species in Vietnam. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 72-73, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 88–89, provided an account, photographs, and a map that excluded Vietnam from the range. A record for Thuong Tien Nature Reserve, Hoa Binh Province, in northern Vietnam, reported by Luu, Le, Do, Hoang, Nguyen, Bonkowski, and Ziegler, 2014, Herpetol. Notes, 7: 51–58. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 186–186, provided a brief account, photograph, and map.

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### *Tylototriton broadoridgus* Shen, Jiang, and Mo, 2012

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton broadoridgus*Shen, Jiang, and Mo, 2012, Asian Herpetol. Res., Ser. 2, 3: 26. Holotype: HNUL 840513527, by original designation. Type locality: "Liaoyewan in the TianpingMountains (29° 49′ N, 110° 9′ E) in Sangzhi County, Hunan", China.

- *Tylototriton (Yaotriton) broadoridgus* — Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 62.
- Yaotriton broadoridgus — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 87.

**Distribution:** Known from the type locality (Liaoyewan, TianpingMountains, SanzhiCounty, northern Hunan, China) and from another locality in eastern Hunan, China, 1000 to 1600 m elevation.

**Comment:** In the *Tylototriton asperrimus* group, similar to *Tylototriton wenxianensis*, according to the original publication (all now *Yaotriton*). Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 87, provided an account, photographs, and a map (which showed a new locality in eastern Hunan, China). Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 188, provided a brief account, photograph, and map.

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### *Tylototriton dabienicus* Chen, Wang, and Tao, 2010

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton wenxianensis dabienicus*Chen, Wang, and Tao, 2010, Acta Zootaxon. Sinica, 35: 666. Holotype: HNNU 0908, by original designation. Type locality: "Huangbaishan National Forest Par of Henan Province, China (31° 24′N, 115° 20′E; alt. 698 m)".
- *Tylototriton dabienicus* — Shen, Jiang, and Mo, 2012, Asian Herpetol. Res., Ser. 2, 3: 26.
- *Yaotriton dabienicus* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 90.
- *Tylototriton (Yaotriton) dabienicus* — Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 187.

**Distribution:** Known only from the type locality (Huangbaishan National Forest Park of Henan Province, China, 698 m elevation); expected throughout the MountDabien region.

**Comment:** In the *Tylototriton asperrimus* group and the sister taxon of *Tylototriton wenxianensis* according to Shen, Jiang, and Mo, 2012, Asian Herpetol. Res., Ser. 2, 3: 26 (now all *Yaotriton*). Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 90, provided an account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 187, provided a brief account, photograph, and map.

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### *Tylototriton hainanensis* Fei, Ye, and Yang, 1984

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton hainanensis*Fei, Ye, and Yang, 1984, Acta Zool. Sinica, 30: 85-89. Holotype: CIB 64III1379, by original designation. Type locality: "Nalong, Wuzhi Shan, alt. 770 m", Hainan, China.
- *Pleurodeles (Tylototrion) hainanensis* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 142.
- *Pleurodeles (Echinotriton) hainanensis* — Dubois, 1987 "1986", Alytes, 5: 11.
- *Tylototriton (Yaotriton) hainanensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Yaotriton hainanensis* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 91.

**Distribution:** Wuzhishan, Diaoluoshan, and Jianfengling, Hainan Island, China, 770–950 m elevation.

**Comment:** See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 74, and Fei, 1999, Atlas Amph. China: 40. Synonymy with *Tylototrion asperrimus* by Zhao, Hu, Jiang, and Yang, 1988, Studies on Chinese Salamanders: 63; this rejected by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 74. In the *Tylototriton asperrimus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). See comments under *Tylototriton* and *Tylototriton asperrimus*. Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 261–265, provided an account. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 607. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 76, provided a brief account including photographs. Shi, 2011, Amph. Rept. Fauna Hainan: 36–38, provided an account. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 91, provided an

account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 186, provided a brief account, photograph, and map.

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### *Tylototriton kweichowensis* Fang and Chang, 1932

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton kweichowensis*Fang and Chang, 1932, Sinensia, Nanking, 2: 112. Holotype: CIB 4664, by original designation. Type locality: "Kung-chi-shan, Dah-ting-hsien [DadingCounty,] Western Kweichow [Guizhou, China] . . . ; altitude about 2000 meters".
- *Tylototriton (Tylototriton) kweichowensis* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 19; Dubois and Raffaëlli, 2009, Alytes, 26: 67.
- *Pleurodeles (Tylototriton) kweichowensis* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 141; Dubois, 1987 "1986", Alytes, 5: 11.
- *Tylototriton (Qiantriton) kweichowensis* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 78.

**Distribution:** Western Guizhou and northeastern Yunnan, China, 1500–2400 m elevation.

**Comment:** See account by Liu, 1950, Fieldiana, Zool. Mem., 2: 102-106; Yang, 1991, Amph. Fauna of Yunnan: 31-33, Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 76; Fei, 1999, Atlas Amph. China: 42; and (as *Echinotriton asperrimus asperrimus*). Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 238-238. In the *Tylototriton verrucosus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 268-272. Raffaëlli, 2007, Les Urodèles du Monde: 146-147, provided a brief account, figure, and map. Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 17-18, provided a brief account for Yunnan, China. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 607. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 78-79, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 78–79, provided an account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 183-184, provided a brief account, photograph, and map.

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### *Tylototriton liuyangensis* Yang, Jiang, Shen, and Fei, 2014

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton liuyangensis*Yang, Jiang, Shen, and Fei, 2014, Asian Herpetol. Res., 5: 4. Holotype: HNUL 11053108, by original designation. Type locality: "Chuandiwo (28°25' N, 114°06' E, at an elevation of 1386 m) in Hunan Liuyang Daweishan Provincial Nature Reserve", Hunan, China.

**Distribution:** Known only from two localities in the Hunan Liuyang Daweishan Provincial Nature Reserve, Hunan, China.

**Comment:** Most closely related to *Tylototriton wenxianensis, Tylototriton broadoridgus,* and *Tylototriton dabienicus* according to the original publication.

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### *Tylototriton lizhengchangi* Hou, Zhang, Jiang, Li and Lu, 2012

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Yaotrion) lizhengchangi* Hou, Zhang, Jiang, Li and Lu *In*Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 62. Holotype: SYNY HM20090501-NT001, by original designation.Type locality: China, Hunan, Mangshan National Nature Reserve.

- *Yaotriton lizhengchangi* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 92.

**Distribution:** Known only from the type locality (Mangshan National Nature Reserve, southern Hunan, China).

**Comment:** Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 92–93, provided an account, photographs, and a map.

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***Tylototriton notialis* Stuart, Phimmachak, Sivongxay, and Robichaud, 2010**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Yaotriton) notialis*Stuart, Phimmachak, Sivongxay, and Robichaud, 2010, Zootaxa, 2650: 23. Holotype: FMNH 271121, by original designation. Type locality: "Laos, Khammouan Province, Boualapha District, Nakai-Nam Theun National Protected Area, Nam On River catchment, Phou Ak escarpment, 17° 38′ 39.6″ N 105° 44′ 12.3″ E (Fig. 4), 980 m elev."

**Distribution:** Known only from Province of Khammouan, Laos, and Nghe An Province, in adjacent Vietnam, 980 to 1000 m elevation.

**Comment:** In the *Tylototriton asperrimus* group according to the original publication. Yuan, Jiang, Lü, Yang, Nguyen, Nguyen, Jin, and Che, 2011, Zool. Res., Kunming, 32: 57–58, suggested that *Tylototriton notialis* is a junior synonym of *Tylototrion asperrimus*, but this conclusion was based on fewer data than the original recognition of the species. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 186–187 provided a brief account, photograph, and map and documented the presence of this species in Vietnam, although only in provincial terms.

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***Tylototriton panhai* Nishikawa, Khonsue, Pomchote, and Matsui, 2013**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Yaotriton) panhai* Nishikawa, Khonsue, Pomchote, and Matsui, 2013, Zootaxa, 3737: 275. Holotype: THNHM 2800, by original designation. Type locality: "Phu Ruea, Phu Luang Wildlife Sanctuary, Loei Province, Thailand (17 29’59’’ N, 101 20’30’’ E, 1183 m asl)".

**Distribution:** Phu Hin Rong Kla National Park, Phitsanulok Province, and Phu Luang Wildlife Sanctuary and Phu Suan Sai National Park, Loei Province, Thailand.

**Comment:** See comments under *Tylototriton verrucosus* for literature that presumably addresses this species under that name. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 189, provided a brief account, photograph, and map.

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***Tylototriton pseudoverrucosus* Hou, Gu, Zhang, Zeng, and Lu, 2012**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Tylototriton) pseudoverrucosus* Hou, Gu, Zhang, Zeng, and Lu *In*Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 63. Holotype: SYNY HM20110901-NT001, by original designation.. Type locality: Ningnan County, Sichuan, China.

**Distribution:** Da Liang Shan (mountains), southern Sichuan, China.

**Comment:** Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 80, provided an account, photographs, and a map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 183, provided a brief account, photograph, and map.

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### *Tylototriton shanjing* Nussbaum, Brodie, and Yang, 1995

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton shanjing* Nussbaum, Brodie, and Yang, 1995, Herpetologica, 51: 265. Holotype: KIZ II 0731 V.27, by original designation. Type locality: "Dingpa, 2150 m elevation, Jingdong County, Yunnan Province, People's Republic of China".
- *Tylototriton verrucosus shanjing* — Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 19.
- *Tylototriton (Tylototriton) shanjing* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Tylototriton (Tylototriton) verrucosus pulcherrima* Hou, Zhang, Li, and Lu *In* Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 63. Holotype: SYNU HM2012501-NT001, by original designation. Type locality: Lvchun County, Yunnan, China. Synonymy by Nishikawa, Khonsue, Pomchote, and Matsui, 2013, Zootaxa, 3737: 277. Error in the gender of the subspecies name.
- *Tylototriton pulcherrima* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 81. Incorrect spelling of the species name.
- *Tylototriton (Tylototriton) pulcherrima* — Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 183.

**Distribution:** Localities throughout most of Yunnan, China, south into northern Thailand; expected in adjacent Laos and Myanmar.

**Comment:** *Tylototriton shanjing* had been placed in the synonymy of *Tylototriton verrucosus* by Zhang, Rao, Yu, and Yang, 2007, Zool. Res., Kunming, 28: 430–436, on the basis of minimal sequence divergence; this synonymy disputed implicitly by Dubois and Raffaëlli, 2009, Alytes, 26: 68, and explicitly by Stuart, Phimmachak, Sivongxay, and Robichaud, 2010, Zootaxa, 2650: 28. See brief account by Zhao and Yang, 1997, Amph. Rept. Hengduan Mountains Region: 34-35. In the *Tylototriton verrucosus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 272-276, provided an account and range map. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 181-182, provided a brief account, figure, and map. Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 18-19, provided a brief account for Yunnan, China. See statement of geographic range, habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 642. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 77. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 81 (as *Tylototriton pulcherrimus*) and 86 (as *Tylototriton shanjing*), provided an account. Zhao, Rao, Liu, Li, and Yuan, 2012, J. W. China Forest. Sci., 41: 85–89, provided molecular evidence for the distinctiveness of this species and it sister-taxon relationship with *Tylototriton daweishanensis*. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 183, provided a brief account, photograph, and map.

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### *Tylototriton shanorum* Nishikawa, Matsui, and Rao, 2014

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Tylototriton) shanorum*Nishikawa, Matsui, and Rao, 2014, Nat. Hist. Bull. Siam Soc., 60: 16. Holotype: CAS 230940, by original designation. Type locality: "TaunggyiTownship, Shan State, Myanmar (20° 48′ 28.5″ N, 97°02′ 45.1″ E, 1457 m asl)".

**Distribution:** Known only from the type locality (Taunggyi, Shan State, Myanmar); seemingly closely related to an unnamed population in Nepal.

**Comment:** Previously confused with *Tylototriton verrucosus*, but actually distant from that species according to an ML tree of ND2 in the original publication, where the unnamed Nepal population was also discussed.

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### *Tylototriton uyenoi* Nishikawa, Khonsue, Pomchote, and Matsui, 2013

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Tylototriton) uyenoi* Nishikawa, Khonsue, Pomchote, and Matsui, 2013, Zootaxa, 3737: 272. Holotype: KUHE 19147, by original designation. Type locality: "PhupingRajanivesPalace, Doi Suthep, Chiang Mai Province, Thailand (18 48'16'' N, 98 54'9'' E, 1436 m asl)".

**Distribution:** Doi Ang Khang, Doi Chang Kien, Doi Inthanon, Doi Pui, and Doi Suthep, Chiang Mai Province, Thailand.

**Comment:** Previously confused with *Tylototriton verrucosus* according to the original publication. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 182-183, provided a brief account, photograph, and map.

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### *Tylototriton verrucosus* Anderson, 1871

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton verrucosus*Anderson, 1871, Proc. Zool. Soc. London, 1871: 423. Types: Not designated athough syntypes evident. Sclater, 1892, List Batr. Indian Mus.: 36, considered ZSIC 10397, 11396, 10366–81 to be syntypes, as is BMNH 1874.6.1.3 (according to Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 280); see discussion by Nussbaum, Brodie, and Yang, 1995, Herpetologica, 51: 264, who designated as neotype KIZ 74II0061 VI.6. Type locality: "Nantin, Momien, and Hotha valleys, Western Yunan [sic], China." Neotype from "Gongwa, 1600 m elevation, Longchuan County, Yunnan Province, People's Republic of China".
- *Triturus (Tylototriton) verrucosus* — Boulenger, 1878, Bull. Soc. Zool. France, 3: 308.
- *Tylotriton verrucosus* — Boettger, 1885, Ber. Offenbach. Ver. Naturkd., 24–25: 165; Bourret, 1927, Fauna Indochine, Vert., 3: 255. Spelling error.
- Glossolega verrucosa — Cope, 1889, Bull. U.S. Natl. Mus., 34: 201. Incorrect subsequent spelling of generic name.
- *Tylototriton verrucosus* — Dunn, 1918, Bull. Mus. Comp. Zool., 62: 450; Wolterstorff and Herre, 1935, Arch. Naturgesch., Leipzig, N. F., 4: 224.
- *Tylototriton (Tylototriton) verrucosus* — Zhao and Hu, 1984, Stud. Chinese Tailed Amph.: 9.
- *Pleurodeles (Tylototriton) verrucosus* — Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 141; Dubois, 1987 "1986", Alytes, 5: 11.
- *Tylototriton verrucosus verrucosus* — Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 19.
- *Tylototriton verrucosus shanjing* — Yang, 2008, *in* Yang and Rao (ed.), Amph. Rept. Yunnan: 19.
- *Tylototriton (Tylototriton) verrucosus* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Tylototriton (Tylototriton) verrucosus verrucosus* — Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 63.

**Distribution:** Provisional; see comments. Moderate (1200 m) to high (2150 m) elevations in extreme western Yunnan and eastern Xizang (China), hills of Arunachal Pradesh, West Bengal, Sikkim, and Manipur in India; Danaga, Punakha, Wangdue Phodrang, and Sarpang Districts, Bhutan; northern Thailand.

**Comment:** With the recognition of *Tylototriton shanjing, Tylototriton panhai*, and *Tylototriton yangi*, and the recognition that additional species remain to be named, it is not clear what the geographic limits of Tylototriton verrucosus actually are. Inasmuch as the type locality of *Tylototriton verrucosus* is in Yunnan, China, hard on the border of northeastern Myanmar, within or near the range of *Tylototriton shanjing*, it is entirely possible that we will see significant taxonomic rearrangements in the future (DRF). See accounts (all of which may include taxa that were subsequently named) by

Taylor, 1962, Univ. Kansas Sci. Bull., 43: 279-282; Anders, Schleich, and Shah, 1998, *in* Schleich and Kästle (eds.), Contr. Herpetol. S. Asia Nepal India, 4: 1-26; Ye, Fei, and Hu, 1993, Rare and Economic Amph. China 79; Fei, 1999, Atlas Amph. China: 44; and Thorn and Raffaëlli, 2000, Salamand. Ancien Monde: 222-226. Chanda, 2002, Handb. Indian Amph.: 183, provided a brief account for India. Wongratana, 1984, Nat. Hist. Bull. Siam Soc., 32: 107-110, discussed the range in Thailand. Zhang and Wen, 2000, Amph. Guangxi: 31, provided an account (for Guangxi), although this record requires verification. Panigrahi, 2000, Indian Biol., 32: 41-43, noted that the Darjeeling population differed distinctly in morphology and coloration from populations elsewhere in Asia. Anders, 2002, *in* Schleich and Kästle (eds.), Amph. Rept. Nepal: 134-140, provided an extensive account for Nepalese population. See account by Shrestha, 2001, Herpetol. Nepal: 62-71. Seglie, Roy, Giacoma, and Mushahiddunnabi, 2003, Russ. J. Herpetol., 10: 157-162, discussed range in the Darjeeling District of India. Palden, 2003, Hamadryad, 27: 286-287, provided records for Bhutan. Sarkar, Biswas, and Ray, 1992, State Fauna Ser., 3: 94-95, provided a brief account for West Bengal, India. Sarkar and Ray, 2006, *In* Alfred (ed.), Fauna of Arunachal Pradesh, Part 1: 313, provided a brief report for Arunachal Pradesh.Nutphund, 2001, Amph. Thailand: 50-51, provided a very brief account and photo. Chan-ard, 2003, Photograph. Guide Amph. Thailand: 72, provided a very brief account, map for Thailand, and photograph. Nguyen, Ho, and Nguyen, 2005, Checklist Amph. Rept. Vietnam: 10, provided a specific locality for Vietnam. In the *Tylototriton verrucosus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 280-283, provided an account and range map. Raffaëlli, 2007, Les Urodèles du Monde: 145, provided a brief account, figure, and map. Devi and Shamungou, 2006, J. Exp. Zool. India, 9: 317-324, provided specific localities within Manipur, India (as *Pleurodeles verrucsosus*). Hegde and Deuti, 2007, Cobra, Chennai, 1 (2): 29-36, provided specific localities from West Bengal, northeastern India. Chuaynkern, Chantipinthara, Songchan, and Duengkae, 2008, Herpetol. Rev., 39: 361, described range in Thailand. Ahmed, Das, and Dutta, 2009, Amph. Rept. NE India: 52, provided a brief account for northeastern India. Chuaynkern, Chantipinthara, Songchan, and Duengkae, 2008, Herpetol. Rev., 39: 361, provided a range extension in Thailand and discussed the range within that country. Mathew and Sen, 2010, Pict. Guide Amph. NE India: 123, provided a brief characterization and photograph. Nguyen, Nguyen, Hồ, Lê, and Nguyen, 2009, Tạp chí Công nghệ Sinh học, 7: 325–333, discussed the species in Vietnam, although Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 181, suggested that these specimens are referrable to other species. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 81, provided a brief account including photographs. Li, Zhao, and Dong, 2010, Amph. Rept. Tibet: 11–12, provided an account for Xizang, China. See Shah and Tiwari, 2004, Herpetofauna Nepal: 31, for brief account for Nepal. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 82–83, provided an account, photographs, and a map. Wangyal, 2013, J. Threatened Taxa, 5: 4776, provided records from south-central Bhutan. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 181–182, provided a brief account, photographs, and range map. Records from Myanmar were referred to *Tylototriton shanorum* by Nishikawa, Matsui, and Rao, 2014, Nat. Hist. Bull. Siam Soc., 60: 9–22. Wangyal and Gurung, 2012, J. Threatened Taxa, 4: 3218–3222, reported on the range in the Punakha-Wangdue Valley, Bhutan.

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### *Tylototriton vietnamensis* Böhme, Schöttler, Nguyen, and Köhler, 2005

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton vietnamensis*Böhme, Schöttler, Nguyen, and Köhler, 2005, Salamandra, 41: 215. Holotype: ZFMK 80637, by original designation. Type locality: "vicinity of Dong Vanh Village, Luc Son Commune, Luc Nam District, Bac Giang Province, northern Vietnam (21° 12´ N, 106° 40´ E, approximately 250-300 m a.s.l.)".
- *Tylototriton (Yaotriton) vietnamensis* — Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Yaotriton vietnamensis*— Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 87; by implication.

**Distribution:** Northern and north-central Vietnam in Phu Tho province; presumably in adjacent Yunnan, China.

**Comment:** See comments under *Tylototriton* and *Tylototriton asperrimus*. Raffaëlli, 2007, Les Urodèles du Monde: 148-149, provided a brief account, figure, and map. Nguyen, Nguyen, Hồ, Lê, and Nguyen, 2009, Tạp chí Công nghệ Sinh học, 7: 325-333, discussed the species and its distinctiveness from *Tylototriton hainanensis*. Stuart, Phimmachak, Sivongxay, and Robichaud, 2010,

Zootaxa, 2650: 30, suggested that nominal *Tylototriton vietnamensis* may include more than one species (*Tylototriton zieglieri* being one of the recent segregates—DRF). Bernardes, Rödder, Nguyen, Pham, Nguyen, and Ziegler, 2013, J. Nat. Hist., London, 47: 1161–1175, discussed habitat and potential distribution.

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### *Tylototriton wenxianensis* Fei, Ye, and Yang, 1984

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton asperrimus wenxianensis*Fei, Ye, and Yang, 1984, Acta Zool. Sinica, 30: 89. Holotype: CIB 638164, by original designation. Type locality: "Wenxian [= WenCounty], Gansu [Province], alt. 946 m", China.
- *Tylototriton asperrimus pingwuensis*Deng and Yu, 1984, Acta Herpetol. Sinica, Chengdu, N.S.,, 3 (2): 75. Holotype: KIZ 74005, by original designation. Type locality: "Duiwoliang, Pingwu, Sichuan, alt. 1400 m", China. Synonymy by Ye, Fei, and Hu, 1993, Rare and Economic Amph. China: 80, following Zhao, Hu, Jiang, and Yang, 1988, Studies on Chinese Salamanders: 63, who considered it likely synonymous.
- *Pleurodeles (Tylototrion) asperrimus wenxianensis*— Risch, 1985, J. Bengal Nat. Hist. Soc., N.S.,, 4: 142.
- *Echinotriton asperrimus wenxianensis*— Zhao and Adler, 1993, Herpetol. China: 112. 1
- *Tylototriton wenxianensis*— Ye, Fei, and Hu, 1993, Rare and Economic Amph. China: 80.
- *Tylototriton (Yaotriton) wenxianensis*— Dubois and Raffaëlli, 2009, Alytes, 26: 68.
- *Tylototriton wenxianensis wenxianensis*— Chen, Wang, and Tao, 2010, Acta Zootaxon. Sinica, 35: 666; by implication.
- *Yaotriton wenxianensis* — Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 94.

**Distribution:** Wenxian in southern Gansu and Pingwu and Qinghuan in adjacent northern Sichuan, as well as isolated records in Guizhou, Hunan, Jiangxi, and southwestern Anhui, China, 650–2500 m elevation.

**Comment:** See comments under *Tylototriton*. See accounts by Ye, Fei, and Hu, 1993, Rare and Economic Amph.China 81, and Fei, 1999, Atlas Amph. China: 42. Fei and Ye, 2001, Color Handbook Amph. Sichuan: 96, provided a brief account and illustration. In the *Tylototriton asperrimus* group of Fei, Ye, Huang, Jiang, and Xie, 2005, Illust. Key Chinese Amph.: 42 (although they only addressed Chinese species). Fei, Hu, Ye, and Huang, 2006, Fauna Sinica, Amph. 1: 265-268. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 187, provided a brief account, photograph, and map. See photograph, map, description of geographic range and habitat, and conservation status in Stuart, Hoffmann, Chanson, Cox, Berridge, Ramani, and Young, 2008, Threatened Amph. World: 607. Fei, Ye, and Jiang, 2010, Colored Atlas of Chinese Amph.: 74-75, provided a brief account including photographs of specimens and habitat. Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 94–95, provided an account, photographs, and a map.

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### *Tylototriton yangi* Hou, Zhang, Zhou, Li, and Lu, 2012

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton (Tylototriton) yangi*Hou, Zhang, Zhou, Li, and Lu *In*Hou, Li, and Lü, 2012, J. Huangshan Univ., 14: 64. Holotype: SYNY HM20070801-NT001, by original designation.. Type locality: Gejiu, Yunnan, China.
- *Tylototriton daweishanensis* Zhao, Rao, Liu, Li, and Yuan, 2012, J. W. China Forest. Sci., 41: 88. Holotype: Rao D.-q. collection 000020, by original designation. Type locality: MountDawei, Pingbian County, Yunnan Province [China]. Synonymy by Nishikawa, Rao, Matsui, and Eto, 2015, Curr. Herpetol., Kyoto, 34: 67.

**Distribution:** Southern Wenshan, Honghe, and MountDawei, PingbianCounty, both in Yunnan, China.

**Comment:** Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 184, provided a brief account, photograph, and map. On the basis of morphology and mtDNA Nishikawa, Rao, Matsui, and Eto, 2015, Curr. Herpetol., Kyoto, 34: 67–71, considered *Tylototriton daweishanensis* and *Tylototriton yangi* to be conspecific.

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***Tylototriton ziegleri* Nishikawa, Matsui, and Nguyen, 2013**

**NC comment: listed by EC-Regulation 338/97 only and not by CITES**

- *Tylototriton ziegleri*Nishikawa, Matsui, and Nguyen, 2013, Curr. Herpetol., 32: 43. Holotype: VNMN 3390, by original designation. Type locality: "Mt. Ta Boc, Ban Thang (Thang Village), Tung Vai Municipality, Quan Ba District, Ha Giang Province, Northern Vietnam, (23° 03′ 25″ N, 104° 50′ 47″ E, 1357 m asl)".
- *Yaotriton ziegleri* —Fei, Ye, and Jiang, 2012, Colored Atlas Chinese Amph. Distr.: 87, by implication.
- *Tylototriton (Yaotriton) ziegleri* — Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 187.

**Distribution:** Ha Giang and Cao Bang provinces of northern Vietnam; likely extending into adjacent LaoCaiProvince.

**Comment:** The sister taxon of *Tylototriton notialis* + *Tylototriton asperrimus* according to the original publication, in which it was noted that this species had been previously confused with *Tylototriton vietnamensis* and *Tylototriton asperrimus*. See comment under *Tylototriton* regarding taxonomy. Raffaëlli, 2013, Urodeles du Monde, 2nd ed.: 187 provided a brief account, photograph, and map.