ARTICLES

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Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico: Update

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This publication serves as an update for the most recent list of scientific and standard English names of North American amphibians and reptiles north of Mexico (Crother et al. 2000. SSAR Herpetol. Circ. 29). The list below should to be used in conjunction with the previous work (*op. cit.*). This update includes new taxa described since the previous publication and any taxonomic changes that have led to name changes, both English and scientific.

A number of changes herein concern date of publication of the original species description. In the course of other work, one of us (McDiarmid) reviewed the dates of publication for species of amphibians and reptiles. A primary source was *An Index to the Scientific Contents of the Journal and Proceedings of The Academy of Natural Sciences of Philadelphia*, published in 1913, pages vii–xiv, in Commemoration of the Centenary of the Academy, March 21, 1912. Data in the publication were drawn primarily from a file of 'receipt acknowledgments' received by the Academy from libraries to whom the *Journal* and *Proceedings* were sent. While useful in establishing a documented earliest date other than that printed on the volume, these acknowledgments likely were subject to the schedules of the various responding librarians and therefore not always helpful when the year of response was different from the stated date of publication. Another potential source of data are accessions files of the various libraries receiving the publications and initial contact with the library of the American Philosophical Society clarified the date of publication for volume 8 [1856] of the *Proceedings*. We hope that further research along these lines will provide definitive dates for most of these volumes and expect that additional updates will be needed in the future.

The task of compiling the kind of information that goes into these publications is not trivial. We encourage colleagues to please send reprints concerning any taxonomic changes or decisions relevant to this list. Receiving such reprints will help ensure these names lists are as complete as possible.

Anura — FROGS

Compiled by Darrel Frost

Ascaphus Stejneger, 1899—TAILED FROGS

Ritland et al. (2000, Can. J. Zool. 78: 1749–1758), using randomly amplified polymorphic DNA (RAPD), found large genetic distances between isolated coastal and Rocky Mountain populations of *Ascaphus* in British Columbia, as well as genetic differentiation between north and south coastal populations. Subsequently, Nielson et al. (2001, Evolution, 55: 147–160) reported on mtDNA variation among the isolated populations in the Pacific Northwest, concluding that former *Ascaphus truei* is composed of at least two species, and recognized these as *Ascaphus truei* and *Ascaphus montanus*.

A. montanus Mittleman and Myers, 1949—Rocky Mountain Tailed Frog

A. truei Stejneger, 1899—Coastal Tailed Frog

See Metter (1968, Cat. Am. Amph. Rept. 69) for review (as including *Ascaphus montanus*).

Bufo alvarius Girard, 1859—Sonoran Desert Toad

B. americanus Holbrook, 1836—American Toad

B. a. charlesmithi Bragg, 1954—Dwarf American Toad

Masta et al. (2002, Mol. Phylogenet. Evol. 24: 302–314) found that *Bufo americanus charlesmithi* was concordant with a distinctive mtDNA clade in their analysis, suggesting that it might be an independent lineage.

B. boreas Baird and Girard, 1852—Western Toad

See Schuierer (1963, Herpetologica 18: 262–267). Two (sometimes three, see *Bufo nelsoni*) nominal subspecies are generally recognized, although the geographic variation within *Bufo boreas* is poorly studied and may mask a number of cryptic species.

B. b. boreas Baird and Girard, 1852—Boreal Toad

B. b. halophilus Baird and Girard, 1853—California Toad

B. fowleri Hinckley, 1882—Fowler's Toad

Masta et al. (2002, Mol. Phylogenet. Evol. 24: 302–314), on the basis of molecular evidence suggested that *Bufo fowleri* is a distinct species composed of three molecularly distinctive populations, which require additional study as to their taxonomic status.

B. nebulifer Girard, 1843—Gulf Coast Toad

Mendelson (1994, Occas. Pap. Mus. Nat. Hist. Univ. Kansas 166: 1–21; 1997, Herpetologica 53: 14–30) showed that a number of cryptic species were concealed under the name *Bufo valliceps* and subscquently (Mulcahy and Mendclson, 2000, Mol. Phylogenet. Evol. 17: 173) recognized that nominal *Bufo valliceps* was composed of a northern species (*Bufo nebulifer*) in the USA south to central Veracruz, Mcxico, and another (*Bufo valliceps*) from central Veracruz, Mexico, to Costa Rica. Although the scientific name of the Gulf Coast Toad has changed, and the likelihood remains that *Bufo valliceps* (sensu stricto) may still hold some surprises, it is unlikely that *Bufo nebulifer* represents more than one lineage.

B. nelsoni Stejneger, 1893—Amargosa Toad

Considered by some to be an allopatric subspecies of *Bufo boreas*. Stebbins (1985, Field Guide W. Rept. Amph., Ed. 2: 70) recognized this allopatric and morphologically distinct population as a distinct species. Altig et al. (1998, Contemp. Herpetol. Inform. Ser. 2: 7) noted its allopatry from *Bufo boreas* as well as fixed differences between larvae. Morphological distinctiveness of the two forms is not controversial.

B. woodhousii Girard, 1854—Woodhouse's Toad

See comments under *Bufo fowleri* in the previous list. The unjustificd emendation of the specific epithet to *woodhousei* has been used widely. The status of taxa recognized by Sanders (1987, Evol. Hybrid. Spec. N. Am. Indig. Bufonids: 1–110), has not been evaluated closely by any author, although they have neither enjoyed any recognition. Subspecies in this taxon are controversial, with two (*B. w. australis* and *B. w. woodhousii*) frequently recognized. A third nominal subspecies, *B. w. velatus* Bragg and Sanders, 1951 (East Texas Toad) has been suggested (Sullivan et al., 1996, Copeia 1996: 274–280), to represent part of a zone of hybridization between *Bufo fowleri* and *Bufo woodhousii* and so should not be recognized as a taxon until this issue is resolved. Detailed study of calls and molecules will likely prove fruitful within this widely distributed species. Masta et al. (2002, Mol. Phylogenet. Evol. 24: 302–314) noted that within *Bufo woodhousii* two distinct mtDNA clades exist which are largely concordant with the nominal subspecies *Bufo woodhousii woodhousii* and *Bufo woodhousii australis*, so additional work is warranted to determine the number of species under this name.

B. w. australis Shannon and Lowe, 1955—Southwestern Woodhouse's Toad

B. w. woodhousii Girard, 1854—Rocky Mountain Toad

Gastrophryne olivacea (Hallowell, 1856)—Great Plains Narrow-mouthed Toad

Hyla gratiosa LeConte, 1856—Barking Treefrog

H. wrightorum Taylor, 1939 "1938"—Mountain Treefrog

Until recently (Duellman, 2001, Hylid Frogs Middle Am., Ed. 2: 983–98) considered a synonym of *H. eximia*, in southern Mexico. Nevertheless, the evidence for considering the Mountain Treefrog as indistinguishable from its Mexican relative was always weak and never consistent with call structure. The status of populations of this species from Mexico (south to, but not including, the Mexico City region) is unknown.

Leptodactylus fragilis (Brocchi, 1877)—Mexican White-lipped Frog

No report of geographic variation. See Heyer (2002, Proc. Biol. Soc. Washington 115: 321–322) for summary of nomenclatural confusion regarding the name of this frog, formerly called *Leptodactylus labialis*.

Pseudacris regilla (Baird and Girard, 1852)—Pacific Treefrog

Transferred to *Pseudacris* by Hedges (1986, Syst. Zool. 35: 11) but was disputed by Cocroft (1994, Herpetologica 50: 420–437), although Silva (1997, J. Herpetol. 31: 609–613) provided additional evidence and discussion for placing this species within *Pseudacris*. See Jameson, Mackey, and Richmond (1966, Proc. California Acad. Sci. 33: 551–620) and Duellman (1970, Monogr. Mus. Nat. Hist. Univ. Kansas 1: 484–493). Several nominal subspecies named, though infrequently used in the literature. Whether these represent sibling species or arbitrarily delimited components of geographic variation is unknown. Further investigation is warranted. Highton (2000, Biol. Plethodontid Salamanders: 234) discussed the previously published allozyme evidence (including that of Case, Haneline, and Smith, 1975, Syst. Zool. 24: 281–295) and suggested that what genetic data as exist for *Pseudacris regilla* are not consistent with it being a single species.

P. streckeri A. A. Wright and A. H. Wright, 1933—Strecker's Chorus Frog

P. s. illinoensis Smith, 1951—Illinois Chorus Frog

Considered a distinct species, *Pseudacris illinoensis*, by Collins (1997, SSAR Herpetol. Circ. 25) without discussion.

Rana berlandieri Baird, 1859—Rio Grande Leopard Frog

R. capito LeConte, 1855—Gopher Frog

Rana capito is considered by some to be part of *R. areolata* (but see Case, 1978, Syst. Zool. 27: 299–311, who considered it distinct). Recognized as distinct from *Rana areolata* by Young and Crother (2001, Copeia 2001: 382–388), who also sugggested that the nominal subspecies are arbitrary units.

R. sevosa Goin and Netting, 1940—Dusky Gopher Frog

Reviewed (as *Rana areolata sevosa*) by Altig and Lohoefener (1983, Cat. Am. Amph. Rept. 324: 1–4). Recognized as distinct from *R. capito* and *R. areolata* by Young and Crother (2001, Copeia 2001: 382–388).

R. virgatipes Cope, 1891—Carpenter Frog

Data presented by Pytel (1986, Herpetologica 42: 273) suggest that careful evaluation for cryptic species is warranted.

Caudata — SALAMANDERS

Compiled by Richard Highton, Stephen G. Tilley (Chair), David B. Wake.

Ambystoma cingulatum Cope, 1868—Flatwoods Salamander

Batrachoseps gavilanensis Jockusch, Yanev, and Wake, 2001—Gabilan Mountains Slender Salamander.

See annotation under *B. pacificus*.

B. incognitus Jockusch, Yanev, and Wake, 2001—San Simeon Slender Salamander

See annotation under *B. pacificus*.

B. luciae Jockusch, Yanev, and Wake, 2001—Santa Lucia Mountains Slender Salamander

See annotation under *B. pacificus*.

B. minor Jockusch, Yanev, and Wake, 2001—Lesser Slender Salamander

See annotation under *B. pacificus*.

B. pacificus (Cope, 1865)—Channel Islands Slender Salamander

This formerly polytypic species now includes only populations found on the northern Channel Islands off the coast of southern California (Jockusch et al., 2001, Herpetol. Monogr. 15: 54–99; Jockusch and Wake, 2002, Biol. Jour. Linn. Soc. 76: 361–391). Former members of this taxon have been raised to species rank (*B. major, B. relictus)* or described as new species (*B. diabolicus, B. gavilanensis, B. incognitus, B. kawia, B. luciae, B. minor,* and *B. regius).*

B. robustus Wake, Yanev and Hansen, 2002—Kern Plateau Salamander

B. wrightorum (Bishop, 1937)—Oregon Slender Salamander

Applegarth (1994, Publ. USDI Bureau of Land Management, Eugene, Oregon) made the required emendation from *B. wrighti* to *B. wrightorum*. Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) employed the original nomenclature.

Desmognathus brimleyorum Stejneger, 1895—Ouachita Dusky Salamander

D. conanti Rossman, 1958—Spotted Dusky Salamander

Elevated to species rank by Titus and Larson (1996, Syst. Biol. 45: 451–472). Treated as a subspecies of *D. fuscus* by Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press). Bonett (Copeia 2002: 344–355) showed that *D. conanti* and *D. fuscus* are

C. pai becomes *A. pai*
C. septemvittatus becomes *A. septemvittata* (*C. s. septemvittatus* becomes *A. s. septemvittata*)
C. sexlineatus becomes *A. sexlineata* (*C. s. sexlineatus* becomes *A. s. sexlineata*, *C. s. stephensae* becomes *A. s. stephensae*)
C. sonorae becomes *A. sonorae*
C. tesselatus becomes *A. tesselata*
C. tigris becomes *A. tigris* (*C. t. mundus* becomes *A. t. munda*[1], *C. t. punctilinealis* becomes *A. t. punctilinealis*, *C. t. septentrionalis* becomes *A. t. septentrionalis*, *C. t. stejnegeri* becomes *A. t. stejnegeri*, *C. t. tigris* becomes *A. t. tigris*)
C. uniparens becomes *A. uniparens*
C. velox becomes *A. velox*
C. xanthonotus becomes *A. xanthonota*

[1]Reeder et al. (*op. cit.*) mistakenly used the name *A. t. undulata* instead of the valid name *A. t. munda* (see Crother et al., 2000, SSAR Herpetol. Circ. 29).

A. laredoensis (McKinney, Kay and Anderson, 1973)—Laredo Striped Whiptail (unisexual)

Abuhteba et al. (2001, Copeia 2001: 262–266) interpreted histoincompatibility between the members of two pattern classes within *Aspidoscelis laredoensis* as evidence for separate hybrid origins of the corresponding clones. The authors noted that two of them are planning to restrict the name *A. laredoensis* to one of the clones and propose a new species name for the other.

A. marmorata Baird and Girard, 1852—Marbled Whiptail

Aspidoscelis marmorata (including *A. marmorata marmorata* and *A. m. reticuloriens* in the United States) was treated as a species by Hendricks and Dixon (1986, Texas J. Sci. 38: 327–402) but as a subspecies of *A. tigris* by Maslin and Secoy (1986, Contrib. Zool. Univ. Colorado Mus. 1: 1–60) and Wright (1993, Pp. 27–81 *in* Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.). Dessauer and Cole (1991, Copeia 1991: 622–637; see also Dessauer et al., 2000, Bull. Am. Mus. Nat. Hist. 246: 1–148) presented evidence of both differentiation and interbreeding between *marmorata* and *tigris* along a transect near the southern part of the border between Arizona and New Mexico, including a narrow (3 km) hybrid zone in which hybrid indices based on color patterns and allele frequencies changed abruptly in concordant step clines. Although those authors interpreted their data as reflecting incomplete speciation between the two forms (i.e., a single species), the same data can be interpreted alternatively as reflecting largely separate gene pools (i.e., two species). Following the terminology of de Queiroz (1998, pp. 57–75 *in* Endless Forms: Species and Speciation, D. J. Howard and S. H. Berlocher [eds.], Oxford University Press), they are here considered incompletely separated species.

"Cnemidophorus" Wagler, 1830—SOUTH AMERICAN WHIPTAILS

Taxonomy for "*Cnemidophorus*" follows Peters and Donoso-Barros (1970, Bull. United States Natl. Mus. 297(Part II): 1–293). Reeder et al. (2002, Am. Mus. Novit. 3365: 1–61) presented evidence that *Cnemidophorus*, even after the removal of *Aspidoscelis*, is not monophyletic, though they did not propose a taxonomic change to rectify this situation. We have placed the name "*Cnemidophorus*" in quotation marks to indicate the non-monophyletic status of the taxon.

Cosymbotus platyurus (Schneider, 1792)—Flat-tailed House Gecko (Introduced)

Cosymbotus platyurus is established in Alachua and Pinellas Counties Florida (Meshaka and Lewis, 1994, Herpetol. Rev. 25: 127; Hauge and Butterfield, 2000, Herpetol. Rev. 31: 52).

Crotaphytus vestigium Smith and Tanner, 1972—Baja California Collared Lizard

McGuire (1996, Bull. Carnegie Mus. Nat. Hist. 32: 1–143) noted that the name *Crotaphytus vestigium* Smith and Tanner is a junior synonym of *C. fasciatus* Mocquard. Nevertheless, he used the junior synonym as the valid name for the taxon because the senior synonym had not been so used during the last 50 years, while the junior synonym had been used repeatedly. McGuire also noted that *C. fasciatus* Mocquard is a junior (primary) homonym of *C. fasciatus* Hallowell (which is itself a junior synonym of *Gambelia wislizenii*) and that Mocquard, apparently aware of the problem, had provided the new replacement name (nomen novum) *C. fasciolatus*. Because the junior primary homonym *C. fasciatus* Mocquard is invalid (ICZN, 1999: Article 57.2), the correct name for this taxon is *C. fasciolatus*; however, for the reasons noted above, McGuire (2000, Bull. Zool. Nomencl. 57: 158–161) has proposed that *C. fasciolatus* be suppressed. Until the International Commission on Zoological Nomenclature rules on this proposal, we have followed the Zoological Code (ICZN, 1999: Article 82.1) by maintaining the name in most common current use.

Eumeces "gilberti" Van Denburgh, 1896—Gilbert's Skink

Richmond and Reeder (2002, Evolution 56: 1498–1513) presented evidence that populations previously referred to *Eumeces gilberti* represent three lineages that separately evolved large body size and the loss of stripes in late ontogenetic stages. Although they considered those three lineages to merit species recognition, they did not propose specific taxonomic changes in that paper. We have placed the name "*gilberti*" in quotation marks to indicate that it refers to a group composed of several species.

E. multivirgatus (Hallowell, 1857)—Many-lined Skink

E. m. epipleurotus Cope, 1880—Variable Skink

Hammerson (1999, Amphibians and Reptiles in Colorado, Univ. Press of Colorado) argued, based on diagnosability and the apparent absence of intergrades, that *Eumeces multivirgatus epipleurotus* (under the name *E. gaigeae*) is a different species than *E. m. multivirgatus*. We have refrained from adopting this proposal until a more rigorous study is conducted.

E. skiltonianus (Baird and Girard, 1852)—Western Skink

Richmond and Reeder (2002, Evolution 56: 1498–1513) presented evidence that the subspecies of *Eumeces skiltonianus*, as currently circumscribed, do not correspond with the boundaries of haplotype clades based on mitochondrial DNA. However, because those authors did not propose a revised subspecies taxonomy, and because resolution of that taxonomy requires more extensive geographic sampling, we have retained the existing subspecies taxonomy (e.g., Tanner, 1988, Cat. Am. Amph. Rept. 447.1).

Hemidactylus turcicus (Linnaeus, 1758)—Mediterranean House Gecko (Introduced)

Hemidactylus turcicus is established at numerous localities in the southern and eastern United States, including the states of Alabama (Mount, 1975, The Reptiles and Amphibians of Alabama, Auburn Univ. Agric. Exper. Stat.), Arizona (Robinson and Romack, 1973, J. Herpetol. 7: 311–312), Arkansas (Paulissen and Buchanan, 1990, Herpetol. Rev. 21: 22), California (Porter, 1988, San Diego Herpetol. Soc. Newsl. 10: 5), Florida (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein), Georgia (Bechtel, 1983, Herpetol. Rev. 14: 27–28), Louisiana (Etheridge, 1952, Copeia 1952: 47–48), Maryland (Norden and Norden, 1989 [1991], Maryland Nat. 33: 57–58), Mississippi (Keiser, 1984, J. Mississippi Acad. Sci. 29: 17–18), Nevada (Saethre and Medica, 1993, Herpetol. Rev. 24: 154–155), New Mexico (Painter et al., 1992, Herpetol. Rev. 23: 62), Oklahoma (Henniger and Black, 1987, Bull. Oklahoma Herpetol. Soc. 12: 20), South Carolina (Eason and McMillan, 2000, Herpetol. Rev. 31: 53), Texas (Conant, 1955, Am. Mus. Novit. 1726: 1–6), and Virginia (Knight, 1993, Dactylus 2: 49–50). Subspecific identifications (*H. t. turcicus*) have been reported in some cases, but not in others.

Holbrookia Girard, 1851—LESSER EARLESS LIZARDS

Taxonomy for *Holbrookia* follows Smith (1946, Handbook of Lizards. Lizards of the United States and Canada, Cornell Univ. Press) with modifications by Axtell (1956, Bull. Chicago Acad. Sci 10: 163–179; description of *H. maculata perspicua* and treatment of *H. lacerata* as a species) and those described in subsequent notes. Separation of *Cophosaurus texanus* (*Holbrookia texana*) from *Holbrookia* follows Axtell (1958, Ph.D.

dissertation, Univ. Texas), Clarke (1965, Emporia St. Res. Stud. 13: 1–66), Cox and Tanner (1977, Great Basin Nat. 37: 35–56) and de Queiroz (1989, Ph.D. dissertation, Univ. California, Berkeley).

H. elegans Bocourt, 1874—Elegant Earless Lizard

H. e. thermophila Barbour, 1921—Sonoran Earless Lizard

Holbrookia elegans was recognized as a species by Lowe (1964, pp. 153–174 in The Vertebrates of Arizona, C. H. Lowe [ed.], Univ. Arizona Press), and corroborating evidence has been provided by Adest (1978, Ph.D. dissertation, Univ. California, Los Angeles) and Wilgenbusch and de Queiroz (2000, Syst. Biol. 49: 592–612); a diagnosis has been provided by Axtell (1998, Interpretive Atlas of Texas Lizards 18: 1–19).

Lacerta bilineata Daudin 1802—Western Green Lizard (Introduced)

Amann et al. (1997, Salamandra 33: 255–268) presented evidence for the specific separation of *Lacerta bilineata* from *L. viridis*, and Green Lizards reported from Shawnee Co., Kansas (Collins, 1993, Univ. Kansas Mus. Nat. Hist. Public Educ. Ser. No. 13; Gubanyi and Gubanyi, 1997, Herpetol. Rev. 28: 96) have subsequently been referred to *L. bilineata* without a subspecific identification (Gubanyi, 2000, Trans. Kansas Acad. Sci. 103: 191–192; Kalyabina-Hauf and Deichsel, 2002, Herpetol. Rev. 33: 225–226).

Leiocephalus carinatus Gray, 1827—Northern Curly-tailed Lizard (Introduced)

L. c. armouri Barbour and Shreeve, 1935—Little Bahama Curly-tailed Lizard (Introduced)

Leiocephalus carinatus armouri is established in Brevard, Dade, and Palm Beach Counties, Florida (Wilson and Porras, 1983, Univ. Kansas, Mus. Nat. Hist. Spec. Publ. 9: 1–81 and references therein; Krysko and King, 2002, Herpetol. Rev. 33: 148).

Mabuya Fitzinger, 1826—MABUYAS

M. multifasciata (Kuhl, 1820)—Many-striped Mabuya (Introduced)

Mabuya multifasciata is established in Dade County, Florida (Meshaka, 1999, Florida Sci. 62: 153–157).

Neoseps Stejneger, 1910—FLORIDA SAND SKINKS

Taxonomy for *Neoseps* follows Telford (1969, Cat. Am. Amph. Rept. 80). Richmond and Reeder (2002, Evolution 56: 1498–1513) presented evidence that *Neoseps* is nested within *Eumeces*, closely related to *E. egregius*, though they did not propose a taxonomic change.

Ophisaurus Daudin, 1803—GLASS LIZARDS

Taxonomy for *Ophisaurus* follows McConkey (1954, Bull. Florida St. Mus. Biol. Sci. 2: 13–23) with modifications by Palmer (1987, Herpetologica, 43: 415–423; description of *O. mimicus*). Macey et al. (1999, Mol. Phylogenet. Evol. 12: 250–272) presented evidence that *Ophisaurus*, if it includes North American, European, African, and Asian species, is not monophyletic. Although they favored placing all species in *Anguis*, this action is both disruptive and makes *Anguis* redundant with Anguinae; we have therefore adopted their alternative proposal of retaining *Ophisaurus* for the North American and Southeast Asian species.

Phrynosoma douglasii (Bell, 1829)—Pygmy Short-horned Lizard

Podarcis muralis (Laurenti, 1768)—Common Wall Lizard (Introduced)

Podarcis muralis is established in Hamilton Co. (Cincinnati), Ohio (Vigle, 1977, Herpetol. Rev. 8: 19; Hedeen, 1988, Herpetol. Rev. 19: 19) and Kenton Co., Kentucky (Ferner and Ferner, 2002, Herpetol. Rev. 33: 226).

P. sicula (Rafinesque, 1810)—Italian Wall Lizard (Introduced)

Podarcis sicula is established in Long Island, New York (Smith and Kohler, 1978, Trans. Kansas Acad. Sci. 80: 1–24 and reference therein) and Topeka, Kansas (Collins, 1993, Univ. Kansas Mus. Nat. Hist. Public Edu. Ser. No. 13). According to Smith and Kohler (*op. cit.*), the New York population is *P. s. sicula*; however, a more recent study by Oliverio et al. (2001, Ital. J. Zool. 68: 121–124) referred both the New York (see also Burke et al., 2002, Copeia 2002: 836–842) and Kansas populations to *P. s. campestris*, though a more thorough characterization of geographic variation within *P. sicula* is needed. A population of *P. s. campestris* was formerly established in Philadelphia, Pennsylvania, but that population is now thought to be extinct (Smith and Kohler, *op. cit.* and references therein).

Sauromalus ater Duméril, 1856—Common Chuckwalla

A proposal to grant the name *Sauromalus obesus* (Baird, 1858) precedence over *S. ater* Duméril 1856 in the interest of maintaining nomenclatural stability (Montanucci et al., 2001, Bull. Zool. Nomen. 58: 37–40) is not followed because both names were in use prior to their treatment as synonyms by Hollingsworth (1998, Herpetol. Monog. 12: 38–191). For further discussion see McDiarmid et al. (2002, Bull. Zool. Nomen. 59: 45–48).

Sceloporus jarrovii Cope, 1875—Yarrow's Spiny Lizard

Wiens et al. (1999, Evolution 53: 1884–1897; see also Wiens and Penkrot, 2002, Syst. Biol. 51: 69–91) presented evidence that several of the previously recognized subspecies of *Sceloporus jarrovii* are not monophyletic and that several clades within this species are more closely related to other species in the *S. torquatus* group than to other populations of *S. jarrovii*. Therefore, they recognized five species for the populations formerly referred to *S. jarrovii*, applying the name *S. jarrovii* to the only one of those five species that occurs in the United States (corresponding with the set of populations formerly referred to *S. j. jarrovii*). No subspecies were recognized.

S. undulatus (Bosc and Daudin *in* Sonnini and Latreille, 1801)—Eastern Fence Lizard

Leaché and Reeder (2002, Syst. Biol. 51: 44–68) presented phylogeographic evidence that *Sceloporus undulatus*, as previously circumscribed, is made up of at least four separately evolving lineages, and they applied the name *S. undulatus* to populations east of roughly the 88th meridian. Their results also suggest that the formerly recognized subspecies *undulatus* (Southern Fence Lizard) and *hyacinthinus* (Northern Fence Lizard) are not natural groups (see also Miles et al., 2002, Herpetologica 58: 277–292), and that the deepest genetic division within *S. undulatus* is not between northern and southern populations but between those east and west of the Appalacian Mountains, though they did not recognize subspecies within *S. undulatus*.

S. consobrinus Baird and Girard, 1853—Prairie Lizard

See note for *Sceloporus undulatus*. Leaché and Reeder (2002, Syst. Biol. 51: 44–68) applied the name *S. consobrinus* to the populations formerly referred to *S. undulatus* from the central United States, most (though not all) of which occur in the plains between the Mississippi River and the Rocky Mountains. Their results also suggest that the formerly recognized subspecies *consobrinus* (Southern Prairie Lizard) and *garmani* (Northern Prairie Lizard) are not natural groups, and they did not recognize subspecies within *S. consobrinus*. Leaché and Reeder (*op. cit.*) noted that the name *S. thayerii* Baird and Girard 1852 (type locality: Indianola, Calhoun Co., TX) may turn out to be the correct name of this species and that populations east of the Mississippi River along the Gulf Coast may represent a separate species.

S. cowlesi Lowe and Norris, 1956—Southwestern Fence Lizard

See note for *Sceloporus undulatus*. Leaché and Reeder (2002, Syst. Biol. 51: 44–68) applied the name *S. cowlesi* to the populations formerly referred to *S. undulatus* from roughly the region of the Chihuahuan Desert. They did not recognize subspecies within *S. cowlesi*.

S. tristichus Cope *in* Yarrow 1875—Plateau Lizard

See note for *Sceloporus undulatus*. Leaché and Reeder (2002, Syst. Biol. 51: 44–68) applied the name *S. tristichus* to the populations formerly referred to *S. undulatus* from roughly the region of the Colorado Plateau. Their results also suggest that the formerly recognized subspecies *tristichus* (Southern Plateau Lizard), *erythrocheilus* (Red-lipped Plateau Lizard), and *elongatus* (Northern Plateau Lizard) are not natural groups, and they did not recognize subspecies within *S. tristichus*.

Scincella lateralis (Say in James, 1823)—Little Brown Skink

Uma notata Baird, 1859 "1858"—Colorado Desert Fringe-toed Lizard

Trépanier and Murphy (2001, Mol. Phylogenet. Evol. 18: 327–334) presented evidence that *Uma notata*, as previously circumscribed, is paraphyletic; the subspecies *U. n. notata* is more closely related to *U. inornata* than to *U. n. rufopunctutu* (see also Wilgenbusch and de Queiroz, 2000, Syst. Biol. 49: 592–612). They therefore considered the two previously recognized subspecies to be species.

U. rufopunctata Cope, 1895—Yuman Desert Fringe-toed Lizard
See note for *Uma notata*. Populations formerly assigned to *U. rufopunctata* from the Mohawk Dunes, Yuma Co., Arizona appear to represent a currently undescribed cryptic species (Trépanier and Murphy, 2001, Mol. Phylogenet. Evol. 18: 327–334).

Urosaurus nigricaudus (Cope, 1864)—Baja California Brush Lizard
Aguirre et al. (1999, Herpetologica 55: 369–381) and Grismer (1999, Herpetologica 55: 446–469) presented evidence that *Urosaurus microscutatus* and *U. nigricaudus* constitute a single species, for which the name *U. nigricaudus* has priority and within which no subspecies were recognized. The English name Black-tailed Brush Lizard was applied to *U. nigricaudus* when that species was thought to include only populations from southern Baja California; however, that name is descriptively misleading when applied to the species as currently circumscribed. Although the English name Baja California Brush Lizard has been used for *U. lahtelai* (e.g., Stebbins, 1985, A Field Guide to Western Reptiles and Amphibians, Houghton Mifflin Co.; Grismer, 2002, Amphibians and Reptiles of Baja California, Univ. California Press), that species is restricted to a small area in the vicinity of Cataviña (suggesting the English name Cataviña Brush Lizard); in contrast, *U. nigricaudus* is widely distributed in, and more-or-less restricted to, Baja California.

Uta stansburiana Baird and Girard, 1852—Common Side-blotched Lizard
Upton and Murphy (1997, Mol. Phylogenet. Evol. 8: 104–113) presented evidence for a distant relationship between *Uta* specimens from Durango versus those from Baja California and surrounding islands (as well as one locality in western Sonora), and they considered the Durango population to constitute a different species, to which they applied the name *U. stejnegeri*. Upton and Murphy's study did not include any populations from the United States, where *Utu* is widely distributed (including the type localities of both *stanburiana* and *stejnegeri*), and we have therefore refrained from adopting their taxonomic proposal until more information is obtained on the relationships of the United States populations.

Xantusia bezyi Papenfuss, Maccy, and Schulte, 2001—Bezy's Night Lizard

X. gracilis Grismer and Galvan, 1986—Sandstone Night Lizard
Lovich (2001, Herpetologica 57: 470–487), presented evidence that the population formerly designated *Xantusia henshawi gracilis* is evolving separately from other populations of *X. henshawi* and recognized it as a species.

X. henshawi Stejneger, 1893—Granite Night Lizard
Lovich (2001, Herpetologica 57: 470–487) presented evidence that the populations of *Xantusia henshawi* represent at least three separately evolving lineages, though he did not propose recognizing them as species.

X. vigilis Baird, 1859 "1858"—Desert Night Lizard

X. v. arizonae Klauber, 1931—Arizona Night Lizard
Papenfuss et al. (2001, Sci. Pap. Nat. Hist. Mus. Univ. Kansas 23: 1–9) proposed that *X. v. arizonae* represents a different species than other populations of *X. vigilis* based on DNA and allozyme differences. Their study was based on a limited sample of *X. vigilis*, and we have therefore refrained from adopting their proposal until more information becomes available on the relationships of other *X. vigilis* populations.

Squamata — SNAKES

Compiled by Jeff Boundy, Jonathan Campbell, Brian Crother (Chair)

Charina umbratica Klauber, 1943—Southern Rubber Boa
Rodríguez-Robles et al. (2001, Mol. Phylogenet. Evol. 18: 227–237), used mtDNA sequence and considered allozyme data from a previous study (Weisman, 1988, MS Thesis, CSU Polytechnic Pomona) and found *C. b. umbratica* to represent a morphologically distinct, allopatric entity that they elevated to species status.

Chilomeniscus stramineus Cope, 1860—Variable Sandsnake
Grismer et al. (2002, Herpetologica 58:18–31) found *C. cinctus, C. punctatissimus, and C. stramineus* to represent morphotypes of a single species.

Chionactis Cope, 1860—SHOVEL-NOSED SNAKES
Reviewed by Mahrdt et al. (2001, Cat. Am. Amph. Rept. 730).

C. occipitalis (Hallowell, 1854)—Western Shovel-nosed Snake
Reviewed by Mahrdt et al. (2001, Cat. Am. Amph. Rept. 731).

C. o. annulata (Baird, 1859)—Colorado Desert Shovel-nosed Snake
Mahrdt et al. (2001, Cat. Am. Amph. Rept. 730) considered *C. saxatilis* a synonym of *C. o. annulata.*

C. palarostris (Klauber, 1937)—Sonoran Shovel-nosed Snake
Reviewed by Mahrdt et al. (2001, Cat. Am. Amph. Rept. 732).

Contia tenuis (Baird and Girard, 1852)—Sharp-tailed Snake
Hoyer (2001, Northwest. Nat. 82: 116–122) found *C. tenuis* to comprise two morphological species. Molecular data presented by Feldman and Spicer (2002, J. Herpetol. 36: 648–655) support recognition of two species, but the new species remains undescribed.

Crotalus oreganus Holbrook, 1840—Western Rattlesnake
Pook et al. (2000, Mol. Phylogenet. Evol. 15: 269–282), Ashton and de Queiroz (2001, Mol. Phylogenet. Evol. 21: 176–189), and Douglas et al. (2002, pp. 11–50 *in* Biology of the Vipers, G. W. Schuett, M. Höggren, M. E. Douglas, and H. W. Greene [eds.], Eagle Mountain Press) analyzed mtDNA sequence data and concluded that *Crotalus viridis* comprised at least two clades, *C. viridis* and *C. oreganus*, with *C. v. cerberus* being the sister taxon to populations of *C. oreganus*. The former two studies did not formally recognize *cerberus* as a species, although both suggested that it was an evolutionary species based on sequence differences and allopatry. The last study did recognize *cerberus* as well as four other taxa. We take the conservative action supported by the congruence among all three studies, which is the recognition of *viridis* and *oreganus*.

C. o. abyssus Klauber, 1930—Grand Canyon Rattlesnake
C. o. cerberus (Coues, 1875)—Arizona Black Rattlesnake
C. o. concolor Woodbury, 1929—Midget Faded Rattlesnake
C. o. helleri Meek, 1905—Southern Pacific Rattlesnake
C. o. lutosus Klauber, 1930—Great Basin Rattlesnake
C. o. oreganus Holbrook, 1840—Northern Pacific Rattlesnake

C. ruber Cope, 1892—Red Diamond Rattlesnake
The International Commission on Zoological Nomenclature (2000, Bull. Zool. Nomencl. 57: 189–190. Opinion 1960) has ruled that the name *Crotalus ruber* Cope 1892 take precedence over *C. exsul* when used as a specific epithet.

C. scutulatus (Kennicott, 1861)—Mohave Rattlesnake

C. s. scutulatus (Kennicott, 1861)—Northern Mohave Rattlesnake
The spelling of the word "Mojave" has been changed to its proper form, "Mohave." The misspelling was noted by Lowe in the preface to his "Venomous Reptiles of Arizona" (1986). The English name of the nominal subspecies has been changed to reflect the distribution rather than describe rattlesnakes from a small portion of its distribution (D. Hardy and H. Greene, pers. comm.).

C. viridis (Rafinesque, 1818)—Prairie Rattlesnake
See comments under *C. oreganus*.

C. v. nuntius Klauber, 1935—Hopi Rattlesnake
C. v. viridis (Rafinesque, 1818)—Green Prairie Rattlesnake

Drymarchon melanurus (Duméril, Bibron and Duméril, 1854)—Central American Indigo Snake
Wüster et al. (2001, Herpetol. J. 11: 157–165) found two taxa of

Drymarchon coexisting in northern Venezuela, representing South American (*D. corais*) and Central/North American (*D. melanurus*) taxa.

D. m. erebennus (Cope, 1860)—Texas Indigo Snake

Elaphe Fitzinger, 1833—RATSNAKES

Utiger et al. (2002, Russian J. Herpetol. 9: 105–124), using molecular data, divided *Elaphe* into eight genera. New World *Elaphe* are part of a clade outside of Old World species, and *Pantherophis* Fitzinger, 1843, is resurrected for most North American species. The common name would be North American Ratsnakes. Pending further review, we retain the current concept of *Elaphe*.

E. alleghaniensis (Holbrook, 1836)—Eastern Ratsnake

See under *E. obsoleta*.

E. emoryi (Baird and Girard, 1853)—Great Plains Ratsnake

Burbrink (2002, Mol. Phylogenet. Evol. 25: 465–476), using molecular data, found *E. guttata* to comprise three clades, which he elevated to species level. *Elaphe guttata meahllmorum* was inferred not to be an evolutionary entity, and was synonymized with *E. emoryi.*

E. guttata (Linnaeus, 1766)—Red Cornsnake

Burbrink (2002, Mol. Phylogenet. Evol. 25: 465–476), using molecular data, found *E. guttata* to comprise three clades, which he elevated to species level, restricting *E. guttata* to populations east of the Mississippi River.

E. obsoleta (Say, 1823)—Texas Ratsnake

Burbrink divided *E. obsoleta* into three species, with no subspecies, based on the congruence of morphological (2001, Herpetol. Monogr. 15: 1–53) and mtDNA (Burbrink et al. 2000, Evolution 54: 2107–2118) evidence.

E. slowinskii Burbrink, 2002—Slowinski's Cornsnake

Burbrink (2002, Mol. Phylogenet. Evol. 25: 465–476), using molecular data, found *E. guttata* to comprise three clades, which he elevated to species level. The clade comprising populations in western Louisiana and eastern Texas were named *E. slowinskii*.

E. spiloides (Duméril, Bibron and Duméril, 1854)—Gray Ratsnake

See under *E. obsoleta*.

Farancia erytrogramma (Palisot de Beauvois *in* Sonnini and Latreille, 1801)—Rainbow Snake

Gyalopion Cope, 1860—WESTERN HOOK-NOSED SNAKES

G. canum Cope, 1860—Chihuahuan Hook-nosed Snake

Heterodon gloydi Edgren, 1952—Dusty Hog-nosed Snake

Werler and Dixon (2000, Texas Snakes. University of Texas Press, Austin) regarded *H. n. gloydi* to be an allopatric, diagnosable taxon restricted to the low plains-eastern forest ecotone of eastern Texas.

Lampropeltis triangulum (Lacépède, 1789)—Milksnake

L. zonata (Lockington, 1876 ex Blainville, 1835)—California Mountain Kingsnake

Rodríguez-Robles et al. (1999, Mol. Ecol. 8: 1923–1934) examined mtDNA and color pattern. The DNA suggested distinct northern and southern clades that they left unnamed. The color pattern variation was too variable to differentiate the seven subspecies. We follow these data and do not recognize any subspecies at this time.

Leptotyphlops dissectus (Cope, 1896)—New Mexico Threadsnake

See *L. dulcis*.

L. dulcis (Baird and Girard, 1853)—Texas Threadsnake

Dixon and Vaughan (2003. Texas J. Sci. 55: 3–24), using morphological data, elevated *L. d. dissectus* to species status, and diagnosed three subspecies within the nominate race, one of which remains unnamed.

L. d. dulcis (Baird and Girard, 1853)—Plains Threadsnake

L. d. rubellum (Garman, 1883)—South Texas Threadsnake

Masticophis fuliginosus (Cope, 1895)—Baja California Coachwhip

On the basis of a sympatric occurrence with *M. flagellum*, Grismer (1994, Herpetol. Nat. Hist. 2: 51; 2002, Amphibians and Reptiles of Baja California. Univ. California Press, Berkeley) elevated *M. f. fuliginosus* to species status.

Opheodrys aestivus (Linnaeus, 1766)—Rough Greensnake

Reviewed by Walley and Plummer (2000, Cat. Am. Amph. Rept. 718).

Pituophis Holbrook, 1842—BULLSNAKES, GOPHERSNAKES, and PINESNAKES

Rodríguez-Robles et al. (2000, Mol. Phylogenet. Evol. 14: 35–50) used mtDNA data and corroborated the current view of *Pituophis* with three species: *melanoleucus, catenifer*, and *ruthveni*. However, the recognition of *ruthveni* rendered *catenifer* paraphyletic. Pending data to corroborate the mtDNA, it is clear that *Pituophis* will undergo taxonomic revision in the near future.

P. catenifer (Blainville, 1835)—Gophersnake

Rodriguez-Robles et al. (2000, Mol. Phylogenet. Evol. 14: 35–50), used mtDNA data and discovered significant internal structuring among *P. catenifer* populations, which may signify the existence of additional species. Rodriguez-Robles et al. did not attempt reclassification. See annotation under *Pituophis*.

P. ruthveni Stull, 1929—Louisiana Pinesnake

Rodriguez-Robles et al. (2000, Mol. Phylogenet. Evol. 14: 35–50), used mtDNA data and argued for the recognition of *P. ruthveni*, despite lack of significant or independent differentiation from some populations of *P. c. sayi*.

Regina Baird and Girard, 1853—CRAYFISH SNAKES

Alfaro and Arnold (2001, Mol. Phylogenet. Evol. 21: 408–423) used DNA sequence data and found the genus to be grossly polyphyletic. This conclusion corroborates the allozyme-based hypothesis of Lawson (1985, Ph.D. dissertation, Louisiana State University). Taxonomic change is necessary for this genus but Alfaro and Arnold recommended against such change pending further investigation of their relationships. Reviewed by Ernst et al. (2002, Cat. Am. Amph. Rept. 756).

R. septemvittata (Say, 1825)—Queen Snake

Reviewed by Ernst (2002, Cat. Am. Amph. Rept. 757).

Sonora semiannulata Baird and Girard, 1853—Groundsnake

Werler and Dixon (2000. Texas Snakes. University of Texas Press, Austin) recognized the subspecies *S. s. taylori* as a diagnosable taxon occupying the Tamaulipan biotic province.

S. s. semiannulata Baird and Girard, 1853—Variable Groundsnake

S. s. taylori (Boulenger, 1894)—Southern Texas Groundsnake

Storeria occipitomaculata (Storer, 1839)—Red-bellied Snake

Reviewed by Ernst (2002, Cat. Am. Amph. Rept. 759).

Tantilla cucullata Minton, 1956—Trans-Pecos Black-headed Snake

Reviewed by Wilson et al. (2000, Cat. Am. Amph. Rept. 719).

T. elegans (Baird and Girard, 1853)—Terrestrial Gartersnake

Bronikowski and Arnold (2001, Copeia 2001: 508–513) used cytochrome b sequence data to identify several clades within *T. elegans* that did not, in some cases, follow phenotypic subspecies boundaries. Hammerson (1999, Amphibians and Reptiles of Colorado. 2nd ed. University of Colorado Press, Boulder) found phenotypes assignable to *T. e. arizonae* and *T. e. vascotanneri* outside of their purported distributions within Colorado, and recommended that the two names be synonymized with *T. e. vagrans*. Hammerson's data supported similar action for Arizona and New Mexico populations as well (J. Boundy, pers. obs.). Three subspecies are tentatively retained.

T. e. elegans (Baird and Girard, 1853)—Mountain Gartersnake

T. e. terrestris Fox, 1951—Coast Gartersnake

T. e. vagrans (Baird and Girard, 1853)—Wandering Gartersnake

T. sirtalis infernalis (Blainville, 1835)—Red-spotted Gartersnake

The International Commission on Zoological Nomenclature (2000, Bull. Zool. Nomencl. 57: 191–192. Opinion 1961) has ruled that the name *Coluber infernalis* be re-associated with Pacific Coast populations referred to as *T. s. concinnus* by Crother et al. (2000, Herpetol. Circular 29:73).

T. s. tetrataenia (Cope, 1875)—San Francisco Gartersnake

Action by the International Commission on Zoological Nomenclature (2000, Bull. Zool. Nomenel. 57: 191–192. Opinion 1961) has retained the name *Eutaenia sirtalis tetrataenia* for San Francisco Peninsula populations of *T. sirtalis*.

CROCODILIA—CROCODILIANS

Crocodylus acutus Cuvier, 1807—American Crocodile

TESTUDINES—TURTLES

Compiled by John Iverson, Peter Meylan (Chair), Michael Seidel

Actinemys Agassiz, 1857—PACIFIC POND TURTLES
Emys and *Emydoidea* are retained despite the recommendation of Feldman and Parham (2002) to lump *Emydoidea* and *Actinemys* under *Emys* because those authors had not seen the argument by Holman and Fritz (2001) for recognizing *Actinemys* as a monotypic genus. We are in agreement with Holman and Fritz that retention of separate genera for *Emys* and *Emydoidea*, and using a third generic name for *Actinemys marmorata*, best serves to reflect the diversity in this monophyletic group. See *Clemmys*.

A. marmorata (Baird and Girard, 1852)—Pacific Pond Turtle
A. m. marmorata (Baird and Girard, 1852)—Northern Pacific Pond Turtle
A. m. pallida (Seeliger, 1945)—Southern Pacific Pond Turtle

Clemmys Ritgen, 1828—SPOTTED TURTLES
Until recently (Holman and Fritz, 2001, Zoolog. Abhand. Staat. Mus. für Tierkunde Dresden 51: 331–354; and Feldman and Parham, 2002, Mol. Phylogenet. Evol. 22: 388–398) the content of the genus *Clemmys* was based on the work of McDowell (1964, Proc. Zool. Soc. Lond. 143: 239–279). This genus was considered to include a set of four North American species (*C. guttata, C. insculpta, C. marmorata*, and *C. muhlenbergii*) and was given the Standard English name, AMERICAN POND TURTLES. Work by Bickham et al (1996, Herpetologica 52: 89–97), Burke et al. (1996, Herpetologica 52: 572–584), Lenk et al. (1999, Mol. Ecol. 8: 1911–1922), Holman and Fritz (op. cit.), Feldman and Parham (op. cit.) and Seidel (2002a, Copeia 2002: 1118–1121) provide ample evidence that *Clemmys* (*sensu lato*) is paraphyletic with respect to the genera *Emys*, *Emydoidea* and *Terrapene*. *C. marmorata* has been shown to be the sister group of *Emys* and *Emydoidea* with the remaining species being paraphyletic with respect to this group and *Terrapene*. *C. insculpta* and *C. muhlenbergii* appear to be sister taxa and *C. guttata* appears to be the sister group to all remaining members of the Emydinae. Thus, the taxonomic revision suggested by Holman and Fritz (op. cit.) is advisable and is followed here. In this revision only the type species, *C. guttata*, is retained in the genus *Clemmys*. See notes for *Actinemys* and *Glyptemys*.

C. guttata (Schneider, 1792)—Spotted Turtle
Reviewed by Ernst (1972, Cat. Am. Amph. Rept. 124).

Glyptemys Agassiz, 1857—SCULPTED TURTLES
See note for *Clemmys*.

G. insculpta (LeConte, 1830)—Wood Turtle
G. muhlenbergii (Schoepff, 1801)—Bog Turtle

Kinosternon hirtipes Wagler, 1830—Rough-footed Mud Turtle

Sternotherus carinatus (Gray, 1855 1856)—Razor-backed Musk Turtle

Trachemys Agassiz, 1857—SLIDERS
Content of this genus follows Seidel and Smith (1986, Herpetologica 42: 242–248) and Seidel (2002a, J. Herpetol. 36: 285–292).

T. gaigeae (Hartweg, 1939)—Mexican Plateau Slider
Price and Hillis (1989, First World Congr. Herpetol. Abstract), Seidel et al. (1999, Herpetologica 55: 470–487), and Seidel (2002b, J. Herpetol. 36:285–292) provide evidence for the specific recognition of this form.

T. g. gaigeae (Hartweg, 1939)—Big Bend Slider