SCIENTIFIC AND STANDARD ENGLISH NAMES OF AMPHIBIANS AND REPTILES OF NORTH AMERICA NORTH OF MEXICO, WITH COMMENTS REGARDING CONFIDENCE IN OUR UNDERSTANDING

COMMITTEE ON STANDARD ENGLISH AND SCIENTIFIC NAMES

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INTRODUCTION

In 1953, the immediate Past–President of the American Society of Ichthyologists and Herpetologists, Charles M. Bogert, formed a committee to compile common names for the North American herpetofauna. The committee consisting of R. Conant, F. R. Cagle, C. J. Goin, C. H. Lowe, W. T. Neill, M. G. Netting, K. P. Schmidt, C. E. Shaw, and R. C. Stebbins was chaired by Conant and the resulting publication summarized their philosophy, methods, and the names (Conant et al., 1956). Subsequent revisions by the committee were published in 1978 and 1982 (Collins et al., 1978, 1982) and subsequently by Collins alone as the coordinator of larger committees named within those publications (Collins, 1990, 1997).

Recently, a committee sanctioned by the Society for the Study of Amphibians and Reptiles, the American Society of Ichthyologists and Herpetologists, and The Herpetologists’ League, was appointed to continue the development of standard English names and to report current scientific names of the North American (USA, Hawaii, and Canada) herpetofauna. The work herein has received the approbation of the societies named above; therefore, this is considered the official list for those societies. With recognition of the effort by various workers over the past years in developing earlier lists (Collins et al., 1978, 1982; Collins, 1990, 1997; Conant et al., 1956; Schmidt, 1953), our goal is to build upon this work, including two important innovations: (1) adopt guidelines for the formation of standard English names, and (2) reference the relevant literature to our decisions about newly proposed and controversial scientific names. The first innovation, adopting guidelines for the formation of standard English names, will add consistency to the standard English names used now, and will provide a framework for the creation of future names. The second innovation will make the list more useable by non-specialists interested in using the appropriate scientific names. By referring to the papers cited in the list, non-specialists will be able to read for themselves why certain changes have or have not been incorporated without doing a timeconsuming literature search.

The present paper details the direction the committee is taking on the problem of creating guidelines for the formation of Standard English names. Perhaps these guidelines should be considered a work in progress, because we expect members of the herpetological community to be critical and provide suggestions to help improve our ideas. In other words, the committee welcomes comments, criticisms, and suggestions, which should be sent to the committee chair (BIC).
Forming Standard English Names: Some Guidelines for Reptiles and Amphibians

As implied above, the formation of Standard English names for reptiles and amphibians has been without guidelines and the result has been an inconsistent list of names. For example, compare the Black–collared Lizard and the White–lipped Frog with the Blackmask Racer and the Blackhead Snake. Or compare rattlesnake with water snake and treefrog with chorus frog. These examples represent two different problems involving: (1) the formation of the descriptive or modifying part of the name and (2) the formation of the group name that it modifies. The guidelines below cover both problems. They draw heavily from the work of K. C. Parkes (1978), who proposed the rules followed by the American Ornithologists’ Union, the rules adopted by the International Ornithological Congress English Names Committee (Frank B. Gill, pers. comm.), and from ideas put forth by Harry Greene (1997). Perhaps the major change we recommend is capitalizing the English names, which follows the ornithologists’ rule.

These guidelines, for the desired result of consistency and standardization, may cause a number of well–worn spellings/formulations of names to change. It is important to separate “consistency” and “standardization”. Consistency is necessary for the formation of new names, whereas standardization concerns the application and usage of the same name for a taxon by all people. We anticipate resistance to these changes, but we also think that consistency and standardization are requisite in order to achieve the goal of making a list of Standard English Names for North America and the world.

Some workers will decry the effort on standard English names with the argument that only scientific names matter. In defense of this effort, we acknowledge the wisdom of the first committee (Conant et al., 1956) and quote from their paper (pp. 172–173):

“Workers who hold that common names have no place in the scientific zoological literature may ignore them. Such workers, however, might do well to read the following paragraph quoted from George Wald (Biochemical Evolution, in Trends in Physiology and Biochemistry, Edited by E. S. Guzman Barron, Academic Press, N. Y., 1952:337–376).

“In the original version of this table, Nuttall mentions Cynocephalus mormon and sphinx, omitting their common names. I have learned since that one is the mandrill and the other the guinea baboon. Since Nuttall wrote in 1904, these names have undergone the following vagaries: Cynocephalus mormon became Papio mormon, otherwise Papio maimon, which turned to Papio sphinx. This might well have been confused with Cynocephalus, now become Papio sphinx, had not the latter meanwhile been turned into Papio papio. This danger averted, Papio sphinx now became Mandrillus sphinx, while Papio papio became Papio comatus. All I can say to this is, thank heavens one is called the mandrill and the other the guinea baboon. Anyone who supposes, as Nuttall apparently did, that he improves matters by giving their taxonomic designations is only asking for trouble, and is more likely to mislead the reader than to inform him.”
PRINCIPLES

1. Long-established names in widespread use should be retained, regard less of any inaccuracy of description, behavior, habitat, location or family relationship suggested by the name, unless there is a compelling and special reason.

2. The full English name of every species shall be different from the names of every other species in North America.

3. The English name of a species need not repeat or reflect its taxonomic name.

4. Names will be given to genera (=group names), species, and subspecies.

5. A name given to a species may, but need not, be the same name as the name of any of its subspecies.

6. A name given to a subspecies is not required to have any part of it the same as the species it belongs to.

7. Each word of a name shall be a word in the English language unless in unusual circumstances the committee finds it appropriate to use a word from foreign language or directly adopted from scientific nomenclature.

8. Accepted English names should not be replaced by a local vernacular (but see 7).

9. Patronyms should neither be encouraged nor discouraged.

10. A patronym should be stated in the possessive case.

11. Names should be changed if they are offensive to a substantial group of people, but should not be altered merely to reflect a change in the name of a country, region, or island.

12. Reference to geographical places and names may vary in form (e.g., Chihua hua vs. Chihuahuan) as deemed appropriate with respect to previous usage and clarity.

13. A geographical word in a name that refers to a small island or group of small islands should include the word “island” or “islands” in the name if to do so brings clarity or avoids being misleading. In all other cases inclusion of “island” or “islands” in a name should depend primarily on prior usage.

14. A group name (defined as a word or words that applies to two or more species) may be applied to two or more unrelated groups.

15. Two or more different group names may be formulated within a single genus.

16. Group names of more than one word should neither be encouraged nor discouraged.

17. Words should be spelled consistently throughout the list.
18. Words with accent marks in the language of their origin should be spelled with those marks only if reasonably necessary to indicate correct pronunciation in English.

19. A group name consisting of two words should generally be spelled as one word except when: (1) It may be spelled as two words with a hyphen where, and only where, the two words have been in general use. (2) The hyphen may be omitted in cases where it would be inappropriate for a special reason. The first letter of the word after the hyphen should not be capitalized.

20. Names should be as short as possible.

21. The full name of one species or subspecies should not be included in the longer name of another species or subspecies.
ACKNOWLEDGMENTS
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LITERATURE CITED


LIST OF STANDARD ENGLISH AND CURRENT
SCIENTIFIC NAMES

Anura—Frogs

Compiled by Darrel Frost.

*Acris* Duméril and Bibron, 1841—CRICKET FROGS

*A. crepitans* Baird, 1854—Northern Cricket Frog

Three subspecies are named, and have not been formally rejected, though they are
infrequently used. Whether these represent arbitrary or historical units is unknown and
requires further investigation.

*A. c. blanchardi* Harper, 1947—Blanchard’s Cricket Frog

*A. c. crepitans* Baird, 1854—Eastern Cricket Frog

*A. c. paludicola* Burger, Smith, and Smith, 1949—Coastal

Cricket Frog

*A. gryllus* (LeConte, 1825)—Southern Cricket Frog

Two nominal subspecies occasionally recognized, although whether they are arbitrary or
historical units is arguable.

*A. g. dorsalis* (Harlan, 1827)—Florida Cricket Frog

*A. g. gryllus* (LeConte, 1825)—Coastal Plain Cricket Frog

*Ascaphus* Stejneger, 1899—TAILED FROGS

*A. truei* Stejneger, 1899—Tailed Frog

Metter (1964, Copeia 1964: 181–195) rejected subspecies but noted extensive geographic
variation over relatively short geographic distances, which may indicate the need for
further investigation. See Metter (1968, Cat. Am. Amph. Rept. 69) for review.

*Bufo* Laurenti, 1768—TOADS

*B. alvarius* Girard, 1859—Colorado River Toad


*B. americanus* Holbrook, 1836—American Toad

There is no seeming consensus, or much ongoing work on geographic variation of this
taxon, although we suggest that careful evaluation of call and/or molecular data would
provide considerable evidence of divergent lineages within the complex. For instance, the
status of the nominal subspecies is far from clear, especially against the background of
introgressive hybridization, which appears to be relatively common along species
boundaries. See comments under *Bufo fowleri*, *B. woodhousii*, *Bufo hemiophrys*, *B.
baxteri*, and *B. terrestris*.

*B. a. americanus* Holbrook, 1836—Eastern American Toad

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

*B. baxteri* Porter, 1968—Wyoming Toad

Recognized as a species, rather than a subspecies, of *Bufo hemiophrys* by Packard (1971,
J. Herpetol. 5: 191–193), and most recently by Smith, Chiszar, Collins, and van Breukelen
Canada 3) considered *B. baxteri* to be undiagnosable against the background of geographic
variation in *B. hemiophrys* (as *B. americanus hemiophrys*), and this has not been
adequately addressed by subsequent authors.
**B. boreas** Baird and Girard, 1852—Western Toad
See Schuierer (1963, Herpetologica 18: 262–267). Three 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, 1853—Boreal Toad
- **B. b. halophilus** Baird and Girard, 1853—California Toad
- **B. b. nelsoni** Stejneger, 1893—Amargosa Toad

**B. californicus** Camp, 1915—Arroyo Toad

**B. canorus** Camp, 1916—Yosemite Toad

**B. cognatus** Say, 1823—Great Plains Toad

**B. debilis** Girard, 1854—Green Toad
See accounts in Sanders and Smith (1951, Field and Laboratory 19: 141–160) and by Bogert (1962, Am. Mus. Novit. 2100). The nominal subspecies are unlikely to be more than arbitrarily defined sections of clines and therefore indefensible, although this remains to be investigated carefully.

- **B. d. debilis** Girard, 1854—Eastern Green Toad
- **B. d. insidior** Girard, 1854—Western Green Toad

**B. exsul** Myers, 1942—Black Toad
Considered by some authors to be a subspecies of *Bufo boreas*. See comments by Schuierer (1963, Herpetologica 18: 262–267).

**B. fowleri** Hinckley, 1882—Fowler’s Toad
Green (1996, Israel J. Zool. 42: 95–109), provided a lucid discussion of the problem of interspecific hybridization in the *Bufo americanus* complex and briefly addressed the unfortunate publication by Sanders (1987, Evol. Hybrid. Spec. N. Am. Indig. Bufonids), in which Sanders recognized a number of dubiously delimited taxa within the *Bufo americanus* complex (*B. hobarti* and *B. velatus* which would be in the synonymy of *B. fowleri*; *B. copei*, which would be in *B. americanus*, and *B. planiorum* and *B. antecessor*, both of which would be in the synonymy of *B. woodhousii woodhousii*). None have been formally synonymized, but neither have they attracted any recognition by those working on the complex.

**B. hemiophrys** Cope, 1886—Canadian Toad
See comment associated with *Bufo baxteri*. Cook (1983, Publ. Nat. Sci. Natl. Mus. Canada 3) regarded *Bufo hemiophrys* and *B. americanus* as forming very distinctive subspecies of one species, although subsequent authors (e.g., Green and Pustowka, 1997, Herpetologica 53: 218–228), have regarded the contact zone between these taxa as a hybrid zone between two species—a philosophical rather than a data issue.

**B. houstonensis** Sanders, 1953—Houston Toad

**B. marinus** (Linnaeus, 1758)—Cane Toad
No subspecies currently diagnosed, although the possibility exists of cryptic species concealed under this name, as one would expect from any nominal species with a range from South Texas and Sonora, Mexico, to Brazil and Peru. Reviewed by Easteal (1986, Cat. Am. Amph. Rept. 395). Relationship with *Bufo poeppigii* (extralimital) unclear, possibly conspecific.
**B. microscaphus** Cope, 1867 “1866”—Arizona Toad

**B. punctatus** Baird and Girard, 1852—Red-spotted Toad
On the basis of considerable geographic variation (mostly extralimital) in morphology we suggest that this binominal may represent a composite of geographically vicariant species which might be elucidated with careful evaluation of calls and/or molecular evidence.

**B. quercicus** Holbrook, 1840—Oak Toad

**B. retiformis** Sanders and Smith, 1951—Sonoran Green Toad

**B. speciosus** Girard, 1854—Texas Toad
No geographic variation reported. Older literature confused this species with *Bufo cognatus*, *B. mexicanus* (extralimital), and *B. compactilis*.

**B. terrestris** (Bonnaterre, 1789)—Southern Toad
No geographic variation reported as such in the literature, although extensive geographic variation is evident on examination of specimens. Hybrization with *Bufo americanus* along the Fall Line may have strong effects on geographic variation, although data on this have not been published. Reviewed by Blem (1979, Cat. Am. Amph. Rept. 223).

**B. valliceps** Wiegmann, 1833—Gulf Coast Toad
Considered to be strongly geographically variable with recognizable subspecies until work by 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*. Further cryptic (and not-so-cryptic) species should be expected to be recognized within this complex, although it is unlikely that those populations that occur in the USA will form more than one lineage.

**B. woodhousii** Girard, 1854—Woodhouse’s Toad
See comments under *Bufo fowleri*. The unjustified 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. Three nominal subspecies are frequently recognized, although these warrant detailed study as to their evolutionary status. Detailed study of calls and molecules will likely prove fruitful within this widely distributed species.

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

**B. w. velatus** Bragg and Sanders, 1951—East Texas Toad

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

**Eleutherodactylus** Duméril and Bibron, 1841—RAINFROGS
The largest vertebrate genus, but poorly represented in USA. Likely paraphyletic with respect to *Ischnocnema*, *Phrynopus*, *Barycholos*, *Euparkerella*, *Geobatrachus*, *Holoaden*, *Adelastes*, and *Phyzelaphryne* (all extralimital).
**E. augusti** (Dugès, 1879)—Barking Frog

**E. a. cactorum** Taylor, 1939 “1938”—Western Barking Frog
**E. a. latrans** (Cope, 1880)—Balcones Barking Frog

**E. coqui** Thomas, 1966—Coqui (Introduced)
Introduced into Florida (reports of introduction into Louisiana, USA are based on misinformation; H. A. Dundee, pers. comm.)

**E. cystignathoides** (Cope, 1878 “1877”—Rio Grande Chirping Frog
Two nominal subspecies named, only one of which enters the USA. The status of these taxa, whether they represent arbitrarily delimited parts of a single population or different lineages is unknown. Formerly placed in *Syrrhophus*, that nominal genus was placed in the synonymy of *Eleutherodactylus* by Hedges (1989, Biogeography of the West Indies, C. Woods, ed., Sandhill Crane Press).

**E. c. campi** (Stejneger, 1915)—Rio Grande Chirping Frog
**E. guttilatus** (Cope, 1879)—Spotted Chirping Frog
Geographic variation is poorly known. Formerly placed in *Syrrhophus*, this nominal genus was placed in the synonymy of *Eleutherodactylus* by Hedges (1989, Biogeography of the West Indies, C. Woods, ed., Sandhill Crane Press). Some authors (e.g. Morafka, 1977, Biogeographica 9: 69) consider *E. guttilatus* a synonym of *E. campi*.

**E. marnockii** (Cope, 1878)—Cliff Chirping Frog

**E. planirostris** (Cope, 1862)—Greenhouse Frog (Introduced)
Extralimital subspecies recently elevated to species status.

**Gastrophryne** Fitzinger, 1843—NORTH AMERICAN NARROW-MOUTHED TOADS

**G. carolinensis** (Holbrook, 1836)—Eastern Narrow-mouthed Toad

**G. olivacea** (Hallowell, 1857 “1856”—Great Plains Narrow-mouthed Toad

**Hyla** Laurenti, 1768—TREEFROGS
The huge majority of nominal *Hyla* species are extralimital to this list. It should be noted that no evidence of *Hyla* monophyly exists, and that the type species of *Hyla* is *H. arborea*, a European species with strong morphological similarities to a group of North American species, including *H. andersonii* and *Pseudacris*. Therefore, it should be expected that most, if not all of Neotropical “*Hyla*” will ultimately be transferred to other genera, such as has already taken place with the removal of the former *Hyla rubra* group to...
Scinax and the recognition of genera such as Duellmanohyla, Ptychohyla, Pternohyla, Plectrohyla, Trachycephalus, Triprion, Pternohyla, Osteocephalus, Tepuihyla, Sphaenorhynchus, Xenohyla, Osteopilus, and Smilisca that clearly are satellites of a paraphyletic Hyla.

**H. andersonii** Baird, 1854—Pine Barrens Treefrog
The widely disjunct populations have been examined with allozymes and only subtle (no fixed differences) geographic variation was documented (Karlin et al., 1982, Copeia 1982: 175–178).

**H. arenicolor** Cope, 1866—Canyon Treefrog
Barber (1999, Molec. Ecol. 8: 563–576) recently examined geographic variation in this taxon and suggested it is composed of three cryptic species.

**H. avivoca** Viosca, 1928—Bird-voiced Treefrog
Smith (1953, Herpetologica 9: 172) discussed geographic variation and recognized two nominal subspecies. Whether these represent arbitrary or historical units is unknown. For discussion see Smith (1966, Cat. Am. Rept. Amph. 28).

**H. a. avivoca** Viosca, 1928—Western Bird-voiced Treefrog
**H. a. ogechiensis** Neill, 1948—Eastern Bird-voiced Treefrog

**H. chrysoscelis** Cope, 1880—Cope’s Gray Treefrog

**H. cinerea** (Schneider, 1799)—Green Treefrog
Subspecies are occasionally recognized (*H. c. cinerea* and *H. c. evittata*) without discussion, and on the basis of a single populationally variable character. See Duellman and Schwartz (1958, Bull. Florida State Mus., Biol. Sci. 3: 241) for discussion and rejection of subspecies.

**H. eximia** Baird, 1854—Mountain Treefrog
Discussed, in part, by Jameson, Mackey, and Richmond (1966, Proc. California Acad. Sci. 33: 594), by Duellman (1970, Monogr. Mus. Nat. Hist. Univ. Kansas 1: 499–505), and by Blair (1960, Southwest. Nat. 5: 129–135). No subspecies currently recognized, although this is a strong candidate for being composed of several sibling species and considerable undocumented geographic variation is apparent upon casual inspection of specimens. The Arizona Treefrog, *Hyla wrightorum*, formerly a synonym of *H. eximia*, has been recognized by some authors (e.g., Sullivan, 1986, Great Bas. Nat. 46: 378–381) but no recent discussion of evidence in support of this has been published.

**H. femoralis** Bosc, 1800—Pine Woods Treefrog

**H. gratiosa** LeConte, 1857 “1856”—Barking Treefrog

**H. squirella** Bosc, 1800—Squirrel Treefrog

**H. versicolor** LeConte, 1825—Gray Treefrog
Nominal *Hyla versicolor* is possibly polyphyletic and further work is needed to elucidate the historical components of this complex. *Hyla versicolor* and *H. chrysoscelis* are sibling species that can only be distinguished readily by call, karyotypes, or cell volume. The actual range of each species is poorly understood. Ptacek, Gerhardt, and Sage (1994, Evolution 48: 898–908), suggested that “*H. versicolor*” is a set of at least three lineages, independently derived from the two documented lineages of “*H. chrysoscelis*”. See also

**Hypopachus** Keferstein, 1867—SHEEP FROGS

*H. variolosus* (Cope, 1866)—Sheep Frog

See Nelson (1973, Herpetologica 29: 6–17; 1974, Herpetologica 30: 250–274) for discussion of geographic variation, rejection of subspecies, and synonymy. Although only two species are currently recognized within this genus, very strong geographic variation in coloration, call, and toe structure argues that several species are masquerading under this particular name. Given that the type locality of *Hypopachus variolosus* is in Costa Rica, one can look forward to the name applied to the U.S. form to change.

**Leptodactylus** Fitzinger, 1826—NEOTROPICAL GRASS FROGS

*L. labialis* (Cope, 1878 “1877”)—Mexican White-lipped Frog


**Osteopilus** Fitzinger, 1843—WEST INDIAN TREEFROGS

*O. septentrionalis* (Duméril and Bibron, 1841)—Cuban Treefrog

(Introduced)

Introduced into Florida. Considerable inter-island variation exists in the Caribbean, although this has not been studied closely. Reviewed by Duellman and Crombie (1970, Cat. Am. Amph. Rept. 92) (as *Hyla septentrionalis*). See also Powell, Passaro, and Henderson (1992, Carib. J. Sci. 28: 234–235). See discussion of species nomenclature by Mittleman (1950, Herpetologica 6: 24–26), in which he suggests that *H. septentrionalis* Schlegel, 1837, is not a *nomen nudum* and applies to *H. chalconota*. If correct, the nomenclature of this species could be expected to change.

**Pseudacris** Fitzinger, 1843—CHORUS FROGS

Dubois (1981, Monit. Zool. Ital., N.S. 16: 9–65) regarded *Pseudacris* as a subgenus of *Hyla*, an arrangement that has not met general acceptance. See comments under *Pseudacris regilla*, *P. ocularis*, and *P. crucifer*.

*P. brachyphona* (Cope, 1889)—Mountain Chorus Frog


*P. brimleyi* Brandt and Walker, 1933—Brimley’s Chorus Frog


*P. cadaverina* (Cope, 1866)—California Treefrog


*P. clarkii* (Baird, 1854)—Spotted Chorus Frog

**P. crucifer** (Wied-Neuwied, 1838)—Spring Peeper
Transfer to *Pseudacris* by Hedges (1986, Syst. Zool. 35: 11) 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*. Hardy and Borrough (1986, Bull. Maryland Herpetol. Soc. 22: 80) placed this species in the monotypic *Parapseudacris*, although this has enjoyed little support. Two nominal subspecies generally recognized, but whether these represent historical or arbitrary elements is not known.

*P. c. bartramiana* (Harper, 1939)—Southern Spring Peeper
*P. c. crucifer* (Wied-Neuwied, 1838)—Northern Spring Peeper

**P. feriarum** (Baird, 1854)—Southeastern Chorus Frog
Removed from the synonymy of *Pseudacris triseriata* by Hedges (1986, Syst. Zool. 35: 1–21). Platz (1989, Copeia 1989: 704–712) retained *P. feriarum* and *P. kalmi* as subspecies of one species but suggested that they might also be distinct species on the basis of data presented by Hedges. The contact zone between these named populations deserves careful scrutiny.

*P. f. feriarum* (Baird, 1854)—Upland Chorus Frog
*P. f. kalmi* Harper, 1955—New Jersey Chorus Frog

**P. maculata** (Agassiz, 1850)—Boreal Chorus Frog

**P. nigrita** (LeConte, 1825)—Southern Chorus Frog
Two subspecies recognized although the status of these requires evaluation; for discussion see Smith and Smith (1952, Am. Midl. Nat. 48: 165–180) and Schwartz (1957, Am. Mus. Novit. 1838: 1–12).

*P. n. nigrita* (LeConte, 1825)—Striped Southern Chorus Frog
*P. n. verrucosus* (Cope, 1878 “1877”)—Florida Chorus Frog

**P. ocularis** (Bosc and Daudin, 1801)—Little Grass Frog
No geographic variation documented, although careful work is warranted. Reviewed, as *Limnaeodus ocularis*, by Franz and Chantell (1978, Cat. Am. Amph. Rept. 209.).

**P. ornata** (Holbrook, 1836)—Ornate Chorus Frog

**P. regilla** (Baird and Girard, 1852)—Pacific Treefrog

*P. r. cascadae* (Jameson, Mackey, and Richmond, 1966)—Cascade Mountain Treefrog

*P. r. curta* (Cope, 1867 “1866”)—California Pacific Treefrog

*P. r. deserticola* (Jameson, Mackey, and Richmond, 1966)—Desert Treefrog

*P. r. pacifica* (Jameson, Mackey, and Richmond, 1966)—Western Oregon Treefrog

*P. r. palouse* (Jameson, Mackey, and Richmond, 1966)—Eastern Oregon Treefrog

*P. r. regilla* (Baird and Girard, 1852)—Northern Pacific Treefrog

*P. r. sierra* (Jameson, Mackey, and Richmond, 1966)—Sierran Treefrog

*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, presumably because of the broad geographic disjunction from *P. streckeri* and published mutually diagnostic differences between the nominal races.

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

*P. triseriata* (Wied-Neuwied, 1838)—Western Chorus Frog

See comment under *Pseudacris maculata*.

*Pternohyla* Boulenger, 1882—BURROWING TREEFROGS

*P. fodiens* Boulenger, 1882—Lowland Burrowing Treefrog

No documented geographic variation, although cryptic species are not expected. Reviewed by Trueb (1969, Cat. Am. Amph. Rept. 77).

*Rana* Linnaeus, 1758—TRUE FROGS

The monophyly of the nominal family (Ranidae Rafinesque, 1814) with respect to the other firmisternal frogs has not been documented, nor is it remotely clear that within that chaotic firmisternal array that *Rana* is monophyletic, even with the recognition in recent years of many extralimital genera.

*R. areolata* Baird and Girard, 1852—Crawfish Frog


*R. a. areolata* Baird and Girard, 1852—Southern Crawfish Frog

*R. a. circulosa* Rice and Davis, 1878—Northern Crawfish Frog

*R. aurora* Baird and Girard, 1852—Red-legged Frog

Hayes and Miyamoto (1984, Copeia 1984: 1018–1022) suggested that *Rana aurora aurora* and *R. a. draytoni* might be distinct species, and this arrangement was adopted by Dubois (1992, Bull. Mens. Soc. Linn. Lyon 61: 322) without discussion. Nevertheless, the distribution of characters is complex and the status of the nominal subspecies/species is not resolved.
R. a. aurora Baird and Girard, 1852—Northern Red-legged Frog
R. a. draytonii Baird and Girard, 1852—California Red-legged Frog

R. berlandieri Baird, 1854—Rio Grande Leopard Frog
Geographic variation is not well documented, and relationships with extralimital Mexican forms (e.g., Rana forreri, R. brownorum) are not well understood.

R. blairi Mecham, Littlejohn, Oldham, Brown, and Brown, 1973—Plains Leopard Frog
Reviewed by Brown (1992, Cat. Am. Amph. Rept. 536). Isolated western populations have not been well explored.

R. boylii Baird, 1854—Foothill Yellow-legged Frog
See Zweifel (1968, Cat. Am. Amph. Rept. 71) for review. Molecular study of geographic variation of this rapidly disappearing species would prove illuminating.

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). Reviewed by Altig and Lohoefener (1983, Cat. Am. Amph. Rept. 324). Recent as-yet-unpublished data argue that based on allozyme data *capito* and *areolata* are distinct and *sevosa* is distinct from the rest of the *capito* populations. The allozyme data also indicate that the remaining nominal subspecies are arbitrary units (Brian Crother, pers. comm.).

R. c. aesopus Cope, 1886—Florida Gopher Frog
R. c. capito LeConte, 1855—Carolina Gopher Frog
R. c. sevosa Goin and Netting, 1940—Dusky Gopher Frog

R. cascadae Slater, 1939—Cascades Frog
Reviewed by Altig and Dumas (1971, Cat. Am. Amph. Rept. 105). The disjunct populations should be investigated with respect to call and molecular parameters.

R. catesbeiana Shaw, 1802—American Bullfrog
Introduced worldwide, although geographic variation within the USA is poorly documented.

R. chiricahuensis Platz and Mecham, 1979—Chiricahua Leopard Frog
Status of Mexican populations and relationship with *Rana montezumae* needs study. Platz (1993, J. Herpetol. 27: 160) noted that various lines of evidence suggest that *R. chiricahuensis* is composed of more than one species, with the central Arizona population notably distinctive. The status of this species with respect to extralimital *R. montezumae* remains unresolved.

R. clamitans Latreille, 1801—Green Frog
The status of the nominal subspecies requires investigation to determine whether they are arbitrary or evolutionary units.

R. c. clamitans Latreille, 1801—Bronze Frog
R. c. melanota Rafinesque, 1820—Northern Green Frog

R. fisheri Stejneger, 1893—Vegas Valley Leopard Frog
Extinct. See comment under *Rana onca*.

R. grylio Stejneger, 1901—Pig Frog
R. heckscheri Wright, 1924—River Frog

R. luteiventris Thompson, 1913—Columbia Spotted Frog
Green, Sharbel, Kearsley, and Kaiser (1996, Evolution 50: 374–390) and Cuellar (1996, Biogeographica 72: 145–150) suggested that *Rana pretiosa* was composed of two sibling

**R. muscosa** Camp, 1917—Mountain Yellow-legged Frog
See Zweifel (1968, Cat. Am. Amph. Rept. 65) for review. Geographic variation warrants detailed study.

**R. okaloosae** Moler, 1985—Florida Bog Frog

**R. onca** Cope, 1875—Relict Leopard Frog
The status of this taxon is controversial, with some workers regarding the Vegas Valley Leopard Frog, *Rana fisheri* Stejneger, 1893 (extinct), as conspecific with the Relict Leopard Frog, *R. onca* (likely now extinct). Others regard *R. fisheri* as most closely related to *R. chiricahuensis* and *R. onca* to not be a member of the *R. chiricahuensis*–group. The systematic discussion is not over although the relevant populations may be both extinct. Reviewed by Jennings (1988, Cat. Am. Amph. Rept. 417).

**R. palustris** LeConte, 1825—Pickerel Frog

**R. pipiens** Schreber, 1782—Northern Leopard Frog

**R. pretiosa** Baird and Girard, 1853—Oregon Spotted Frog
See comment under *Rana luteiventris*.

**R. septentrionalis** Baird, 1854—Mink Frog

**R. sphenoecephala** Cope, 1886—Southern Leopard Frog

**R. s. sphenoecephala** Cope, 1886—Florida Leopard Frog

**R. s. utricularia** Harlan, 1825—Southern Leopard Frog

**R. subaquavocalis** Platz, 1993—Ramsey Canyon Leopard Frog
The status of this taxon with respect to populations in Mexico, including *Rana montezumae*, needs study.

**R. sylvatica** LeConte, 1825—Wood Frog
Geographic variation requires detailed work, particularly with regard to the status of various isolated populations, of which one in Colorado, *Rana maslini* Porter, 1969, has been arguably considered a distinct species although this was rejected by Bagdonas and Pettus (1976, J. Herpetol. 10: 105–112). Reviewed by Martof (1970, Cat. Am. Amph. Rept. 86).
**R. tarahumareae** Boulenger, 1917—Tarahumara Frog
Extinct in the USA although persisting in Mexico.

**R. virgatipes** Cope, 1891—Carpenter Frog
Reviewed by Gosner and Black (1968, Cat. Am. Amph. Rept. 67). Cryptic species are not expected.

**R. yavapaiensis** Platz and Frost, 1984—Lowland Leopard Frog

**Rhinophrynus** Duméril and Bibron, 1841—BURROWING TOADS

**R. dorsalis** Duméril and Bibron, 1841—Mexican Burrowing Toad
Geographic variation has not been studied in any detail and cryptic lineages are a possibility. Reviewed by Fouquette (1969, Cat. Am. Amph. Rept. 78).

**Scaphiopus** Holbrook, 1836—NORTH AMERICAN SPADEFOOTS
See comment under *Spea*.

**S. couchii** Baird, 1854—Couch’s Spadefoot

**S. holbrookii** (Harlan, 1835)—Eastern Spadefoot
Reviewed by Wasserman (1968, Cat. Am. Amph. Rept. 70) as *Scaphiopus holbrookii holbrookii*. Frequently considered conspecific with the allopatric and diagnosable *S. hurterii*.

**S. hurterii** Strecker, 1910—Hurter’s Spadefoot
Considered by some to be an allopatric, well-differentiated subspecies of *Scaphiopus holbrookii*, even though it is diagnosable and allopatric. Reviewed by Wasserman (1968, Cat. Am. Amph. Rept. 70) as *S. holbrookii hurterii*.

**Smilisca** Cope, 1865—SMILISCAS
For review see Duellman (1968, Cat. Am. Amph. Rept. 58).

**S. baudinii** (Duméril and Bibron, 1841)—Mexican Treefrog
Reviewed by Duellman (1968, Cat. Am. Amph. Rept. 59). Molecular analysis would likely find interesting marks of history distinguishing the western and eastern Mexican populations although this would be unlikely to affect the appropriate name for the USA population.

**Spea** Cope, 1866—WESTERN SPADEFOOTS

**S. bombifrons** (Cope, 1863)—Plains Spadefoot

**S. hammondii** (Baird, 1859 “1857”)—Western Spadefoot
**S. intermontana** (Cope, 1883)—Great Basin Spadefoot
Geographic variation very poorly documented, and, according to evidence provided by Titus and Wiens (1991, Herpetologica 47: 21–29), this nominal species may be a paraphyletic composite of at least two species. Reviewed (as *Scaphiopus intermontanus*) by Hall (1999, Cat. Am. Amph. Rept. 650).

**S. multiplicata** (Cope, 1863)—Mexican Spadefoot

**S. m. stagnalis** (Cope, 1875)—New Mexico Spadefoot

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**Xenopus** Wagler, 1827—CLAWED FROGS

**X. laevis** (Daudin, 1802)—African Clawed Frog (Introduced)

“*Xenopus laevis*” is clearly a composite of many undescribed species in Africa and the actual identity of introduced populations in the U.S. has not been clearly determined. One can expect the identification of these introduced frogs to change.
Caudata — Salamanders

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

**Ambystoma** Tschudi, 1838—MOLE SALAMANDERS

*A. annulatum* Cope, 1886—Ringed Salamander

*A. barbouri* Kraus and Petranka, 1989—Streamside Salamander

*A. californiense* Gray, 1853—California Tiger Salamander


*A. cingulatum* Cope, 1867—Flatwoods Salamander

*A. gracile* (Baird, 1859)—Northwestern Salamander


*A. jeffersonianum* (Green, 1827)—Jefferson Salamander

*A. laterale* Hallowell, 1856—Blue-spotted Salamander

*A. mabeei* Bishop, 1928—Mabee’s Salamander

*A. macrodactylum* Baird, 1850 “1849”—Long-toed Salamander

*A. m. columbia* Ferguson, 1961—Eastern Long-toed Salamander

*A. m. croceum* Russell and Anderson, 1956—Santa Cruz Long-toed Salamander

*A. m. krasei* Peters, 1882—Northern Long-toed Salamander

*A. m. macrodactylum* Baird, 1850 “1849”—Western Long-toed Salamander

*A. m. sigillatum* Ferguson, 1961—Southern Long-toed Salamander

*A. maculatum* (Shaw, 1802)—Spotted Salamander

*A. opacum* (Gravenhorst, 1807) Marbled Salamander

*A. talpoideum* (Holbrook, 1838) Mole Salamander

*A. texanum* (Matthes, 1855) Small-mouthed Salamander

*A. tigrinum* (Green, 1825) Tiger Salamander

Shaffer and McKnight (1996, Evolution 50: 417–433) provided molecular phylogenetic data indicating that the eastern and western tiger salamanders should be regarded as distinct species and Collins (1997, SSAR Herpetol. Circ. 25) treated the western forms as subspecies of *Ambystoma mavortium*. Irschick and Shaffer (1997, Herpetologica 53: 30–49) provided further information on patterns of intergradation in this complex, but declined to recognize *A. mavortium* as a separate, polytypic species. Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) followed their taxonomy, treating *mavortium* and the other western taxa as subspecies of *A. tigrinum*.

*A. t. diaboli* Dunn, 1940 Gray Tiger Salamander

*A. t. mavortium* Baird, 1850 Barred Tiger Salamander

*A. t. melanostictum* (Baird, 1860) Blotched Tiger Salamander

*A. t. nebulosum* Hallowell, 1852 Arizona Tiger Salamander
A. t. stebbinsi Lowe, 1954 Sonoran Tiger Salamander
A. t. tigrinum (Green, 1825) Eastern Tiger Salamander

**Amphiuma** Garden, 1821—AMPHIUMAS

- **A. means** Garden, 1821—Two-toed Amphiuma
- **A. pholeter** Neill, 1964—One-toed Amphiuma
- **A. tridactylum** Cuvier, 1827—Three-toed Amphiuma

**Aneides** Baird, 1849—CLIMBING SALAMANDERS

See note under *Plethodon* regarding paraphyly.

- **A. aeneus** (Cope and Packard, 1881)—Green Salamander
- **A. ferreus** Cope, 1869—Clouded Salamander
- **A. flavipunctatus** (Strauch, 1870)—Black Salamander


- **A. f. flavipunctatus** (Strauch, 1870)—Speckled Black Salamander
- **A. f. niger** Myers and Maslin, 1948—Santa Cruz Black Salamander

**A. hardii** (Taylor, 1941)—Sacramento Mountains Salamander

**A. lugubris** (Hallowell, 1849)—Arboreal Salamander

**A. vagrans** Wake and Jackman, 1999 “1998”—Wandering Salamander

**Batrachoseps** Bonaparte, 1841—SLENDER SALAMANDERS

- **B. attenuatus** (Eschscholtz, 1833)—California Slender Salamander
- **B. campi** Marlow, Brode, and Wake, 1979—Inyo Mountains Salamander
- **B. diabolicus** Jockusch, Wake, and Yanev, 1998—Hell Hollow Slender Salamander

**B. gabrieli** Wake, 1996—San Gabriel Mountains Slender Salamander


**B. gregarius** Jockusch, Wake, and Yanev, 1998—Gregarious Slender Salamander

**B. kawia** Jockusch, Wake, and Yanev, 1998—Sequoia Slender Salamander

**B. major** Camp, 1915—Garden Slender Salamander

A recent revision by Wake and Jockusch (2000, pp. 95–119 in Bruce, R.C., et al., *The Biology of Plethodontid Salamanders*, Kluwer Academic/Plenum Publishers) raised the rank of this taxon and recognized two subspecies.

- **B. m. major** Camp, 1915—Garden Slender Salamander
- **B. m. aridus** Brame, 1970—Desert Slender Salamander

**B. nigriventris** Cope, 1869—Black-bellied Slender Salamander

Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) incorrectly attributes the name to Yanev.
**B. pacificus** (Cope, 1865)—Channel Islands Slender Salamander


**B. regius** Jockusch, Wake, and Yanev, 1998—Kings River Slender Salamander

**B. relictus** Brame and Murray, 1968—Relictual Slender Salamander


**B. simatus** Brame and Murray, 1968—Kern Canyon Slender Salamander

**B. stebbinsi** Brame and Murray, 1968—Tehachapi Slender Salamander

**B. wrighti** (Bishop, 1937)—Oregon Slender Salamander


**Cryptobranchus** Leuckart, 1821—HELLBENDERS

**C. alleganiensis** (Daudin, 1803)—Hellbender

  **C. a. alleganiensis** (Daudin, 1803)—Eastern Hellbender

  **C. a. bishopi** Grobman, 1943—Ozark Hellbender

**Desmognathus** Baird, 1850—DUSKY SALAMANDERS

**D. aeneus** Brown and Bishop, 1947—Seepage Salamander

**D. apalachicolae** Means and Karlin, 1989—Apalachicola Dusky Salamander

**D. auriculatus** (Holbrook, 1838)—Southern Dusky Salamander

**D. brimleyorum** Stejneger, 1894—Ouachita Dusky Salamander

**D. carolinensis** Dunn, 1916—Carolina Mountain Dusky Salamander

Resurrected from synonymy under _D. ochrophaeus_ by Tilley and Mahoney (1996, Herpetol. Monogr. 10: 1–42) on the basis of molecular data.
**D. conanti** Rossman, 1958—Spotted Dusky Salamander

**D. fuscus** (Green, 1818)—Northern Dusky Salamander
Treated as a monotypic species by Titus and Larson (1996, Syst. Biol. 45: 451–472). Treated as a polytypic species consisting of *D. f. conanti*, *D. f. fuscus*, and *D. f. santeetlah* by Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press). Geographic variation in this widely distributed taxon badly needs comprehensive study, as does the putative intergradation zone between *D. fuscus* and *D. conanti*.

**D. imitator** Dunn, 1927—Imitator Salamander

**D. marmoratus** (Moore, 1899)—Shovel-nosed Salamander

**D. monticola** Dunn, 1916—Seal Salamander

**D. ochrophaeus** Cope, 1859—Allegheny Mountain Dusky Salamander

**D. ocoee** Nicholls, 1949—Ocoee Salamander
Resurrected from synonymy under *D. ochrophaeus* by Tilley and Mahoney (1996, Herpetol. Monogr. 10: 1–42). This form consists of genetically heterogeneous, allo- and parapatric units that occupy different mountain ranges in the southern Blue Ridge and Cumberland Plateau physiographic provinces. The relationships among these isolates and between them and other desmognathines require much further study.

**D. orestes** Tilley and Mahoney, 1996—Blue Ridge Dusky Salamander
This taxon consists of two genetically differentiated units that may represent cryptic species (Tilley and Mahoney, 1996, Herpetol. Monogr. 10: 1–42; Tilley, 1997, J. Heredity. 88: 305–315).

**D. quadramaculatus** (Holbrook, 1840)—Black-bellied Salamander

**D. santeetlah** Tilley, 1981—Santeetlah Dusky Salamander

**D. welteri** Barbour, 1950—Black Mountain Salamander

**D. wrighti** King, 1936—Pigmy Salamander

**Dicamptodon** Strauch, 1870—PACIFIC GIANT SALAMANDERS

**D. aterrimus** (Cope, 1867)—Idaho Giant Salamander

**D. copei** Nussbaum, 1970—Cope’s Giant Salamander

**D. ensatus** (Eschscholtz, 1833)—California Giant Salamander
**D. tenebrosus** (Baird and Girard, 1852)—Coastal Giant Salamander

**Ensatina** Gray, 1850—**ENSATINAS**

**E. eschscholtzii** Gray, 1850—Ensatina
The taxonomy of this complex is debated. Some authors would recognize from two (e.g., Frost and Hillis, 1990, Herpetologica 46: 87–104) to as many as 11 or more species (e.g., Highton, 1998, Herpetologica 54: 254–278), whereas others (e.g., Wake, 1997, Proc. Natl. Acad. Sci. USA, 94: 7761–7767; Wake and Schneider, 1998, Herpetologica 54: 279–298) consider evidence for evolutionary independence of segments of the complex to be inadequate or equivocal. Narrow hybrid zones have been demonstrated to exist between populations assigned to the subspecies *xanthoptica* and *platensis*, and between *klauberi* and *eschscholtzii*, and one site of sympathy with no hybridization between the latter pair has been reported (Wake et al., 1989, in Speciation and Its Consequences, D. Otte and J. A. Endler, eds., Sinauer). Broader zones of genetic admixture and reticulation between units of the complex in many areas raise questions about evolutionary independence, and borders of taxa are elusive.

- **E. e. croceater** (Cope, 1867)—Yellow-blotched Ensatina
- **E. e. eschscholtzii** Gray, 1850—Monterey Ensatina
- **E. e. klauberi** Dunn, 1929—Large-blotched Ensatina
- **E. e. oregonensis** (Girard, 1856)—Oregon Ensatina
- **E. e. picta** Wood, 1940—Painted Ensatina
- **E. e. platensis** (Espada, 1875)—Sierra Nevada Ensatina
- **E. e. xanthoptica** Stebbins, 1949—Yellow-eyed Ensatina

**Eurycea** Rafinesque, 1822—**BROOK SALAMANDERS**

**E. b. bislineata** (Green, 1818)—Northern Two-lined Salamander

- **E. e. croceater** (Cope, 1867)—Yellow-blotched Ensatina
- **E. e. eschscholtzii** Gray, 1850—Monterey Ensatina
- **E. e. klauberi** Dunn, 1929—Large-blotched Ensatina
- **E. e. oregonensis** (Girard, 1856)—Oregon Ensatina
- **E. e. picta** Wood, 1940—Painted Ensatina
- **E. e. platensis** (Espada, 1875)—Sierra Nevada Ensatina
- **E. e. xanthoptica** Stebbins, 1949—Yellow-eyed Ensatina

**E. chisholmensis** Chippindale, Price, Wiens, and Hillis, 2000—Salado Salamander

**E. cirrigera** (Green, 1830)—Southern Two-lined Salamander

**E. guttolineata** (Holbrook, 1838)—Three-lined Salamander
**E. junaluska** Sever, Dundee, and Sullivan, 1976—Junaluska Salamander

**E. latitans** Smith and Potter, 1946—Cascade Caverns Salamander

Resurreceted from synonymy under *Eurycea neotenes* by Chippindale, et al. (2000, Herpetol. Monogr. 14: 1–80). They review the problematical nature of this taxon, which they refer to as the “*E. latitans* complex” and which may not constitute a monophyletic group.

**E. longicauda** (Green, 1818)—Long-tailed Salamander

*E. l. longicauda* (Green, 1818)—Long-tailed Salamander

*E. l. melanopleura* (Cope, 1893)—Dark-sided Salamander

**E. lucifuga** Rafinesque, 1822—Cave Salamander

**E. multiplicata** (Cope, 1869)—Many-ribbed Salamander

*E. m. griseogaster* Moore and Hughes, 1941—Gray-bellied Salamander

*E. m. multiplicata* (Cope, 1869)—Many-ribbed Salamander

**E. nana** Bishop, 1941—San Marcos Salamander

**E. naufragia** Chippindale, Price, Wiens, and Hillis, 2000—Georgetown Salamander

**E. neotenes** Bishop and Wright, 1937—Texas Salamander

Chippindale, et al. (2000, Herpetol. Monogr. 14: 1–80) recommend restricting this name to spring populations in the vicinity of the type locality.

**E. pterophila** Burger, Smith, and Potter, 1950—Fern Bank Salamander

Resurreceted from synonymy under *Eurycea neotenes* by Chippindale, et al. (2000, Herpetol. Monogr. 14: 1–80) on the basis of allozymic evidence. They restrict the name to populations at the type locality and elsewhere in the Blanco River drainage.

**E. quadridigitata** (Holbrook, 1842)—Dwarf Salamander

**E. rathbuni** Stejneger, 1896—Texas Blind Salamander


**E. robusta** Longley, 1978—Blanco Blind Salamander


**E. sosorum** Chippindale, Price and Hillis, 1993—Barton Springs Salamander

**E. tonkawae** Chippindale, Price, Wiens, and Hillis, 2000—Jollyville Plateau Salamander

**E. tridentifera** Mitchell and Reddell, 1965—Comal Blind Salamander

**E. troglodytes** Baker, 1957—Valdina Farms Salamander

Resurreceted from synonymy under *Eurycea neotenes* by Chippindale, et al. (2000, Herpetol. Monogr. 14: 1–80). They regard this taxon as a monophyletic collection of populations that probably contains additional undescribed species, and refer to it as the “*Eurycea troglodytes* complex.”

**E. tynerensis** Moore and Hughes, 1939—Oklahoma Salamander
**E. wilderae** Dunn, 1920—Blue Ridge Two-lined Salamander

**Gyrinophilus** Cope, 1869—SPRING SALAMANDERS

**G. gulolineatus** Brandon, 1965—Berry Cave Salamander

**G. palleucus** McCrady, 1954—Tennessee Cave Salamander

- *G. p. necturoides* Lazell and Brandon, 1962—Big Mouth Cave Salamander
- *G. p. palleucus* McCrady, 1954—Pale Salamander

**G. porphyriticus** (Green, 1827)—Spring Salamander

- *G. p. danielsi* (Blatchley, 1901)—Blue Ridge Spring Salamander
- *G. p. dumi* Mittleman and Jopson, 1941—Carolina Spring Salamander
- *G. p. duryi* (Weller, 1930)—Kentucky Spring Salamander
- *G. p. porphyriticus* (Green, 1827)—Northern Spring Salamander

**G. subterraneus** Besharse and Holsinger, 1977—West Virginia Spring Salamander

**Haideotriton** Carr, 1939—GEORGIA BLIND SALAMANDERS

**H. wallacei** Carr, 1939—Georgia Blind Salamander

**Hemidactylium** Tschudi, 1838—FOUR-TOED SALAMANDERS

**H. scutatum** (Schlegel, 1838)—Four-toed Salamander

**Hydromantes** Gistel, 1848—WEB-TOED SALAMANDERS

**H. brunus** Gorman, 1954—Limestone Salamander
**H. platycephalus** (Camp, 1916)—Mt. Lyell Salamander
**H. shastae** Gorman and Camp, 1953—Shasta Salamander

**Necturus** Rafinesque, 1819—WATERDOGS and MUDPUPPIES

**N. alabamensis** Viosca, 1937—Blackwarrior Waterdog
**N. beyeri** Viosca, 1937—Gulf Coast Waterdog
According to Bart et al. (1997, J. Herpetol. 31: 192–201) this taxon may consist of more than one species.
**N. lewisi** Brimley, 1924—Neuse River Waterdog

**N. maculosus** (Rafinesque, 1818)—Mudpuppies

Collins’ (1997, SSAR Herpetol. Circ. 25) treatment of *Necturus m. louisianensis* as a species has not been confirmed by published data and Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) treats it as a subspecies.

**N. m. maculosus** (Rafinesque, 1818)—Common Mudpuppy

**N. m. louisianensis** Viosca, 1938—Red River Mudpuppy

**N. punctatus** (Gibbes, 1850)—Dwarf Waterdog

Two subspecies, *Necturus p. lodingi* and *N. p. punctatus*, were recognized by Collins (1997, SSAR Herpetol. Circ. 25), but not by Dundee (1998, Catalogue of American Amphibians and Reptiles 663) or Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press). *N. lodingi* was originally described (Viosca, 1937: 120–138) from the lowermost tributaries of Mobile Bay and treated as a subspecies of *N. punctatus* by Hecht (1958, Proc. Staten Island Inst. Arts Sci. 21: 1–38) who applied the name to lower coastal plain populations from Mobile Bay to Florida. Bart et al. (1997, H. Herpetol. 31: 192–201) regarded the taxonomic status of these populations as uncertain. Petranka (op. cit.) treated *N. punctatus* as monotypic and included Mobile Bay within the range of *N. alabamensis*, thus implicitly (without mentioning the name) treating *lodingi* as a synonym under that species.

**Notophthalmus** Rafinesque, 1820—EASTERN NEWTS

**N. meridionalis** (Cope, 1880)—Black-spotted Newt

**N. m. meridionalis** (Cope, 1880)—Texas Black-spotted Newt

**N. perstriatus** (Bishop, 1941)—Striped Newt

**N. viridescens** (Rafinesque, 1820)—Eastern Newt

**N. v. dorsalis** (Harlan, 1828)—Broken-striped Newt

**N. v. louisianensis** Wolterstorf, 1914—Central Newt

**N. v. piaropicola** (Schwartz and Duellman, 1952)—Peninsula Newt

**N. v. viridescens** (Rafinesque, 1820)—Red-spotted Newt

**Phaeognathus** Highton, 1961—RED HILLS SALAMANDERS

**P. hubrichti** Highton, 1961—Red Hills Salamander

**Plethodon** Tschudi, 1838—WOODLAND SALAMANDERS

This taxon may be paraphyletic with respect to *Aneides*, according to Larson, et al. (1981, Evolution 35: 405–422).

**P. ainsworthi** Lazell, 1998—Catahoula Salamander

**P. albagula** Grobman, 1944—Western Slimy Salamander


**P. amplus** Highton and Peabody, 2000—Blue Ridge Gray-cheeked Salamander
**P. angusticlavius** Grobman, 1944—Ozark Salamander

**P. aureolus** Highton, 1983—Tellico Salamander

**P. caddoensis** Pope and Pope, 1951—Caddo Mountain Salamander

**P. chattahoochee** Highton, 1989—Chattahoochee Slimy Salamander
Treated as a synonym of *Plethodon glutinosus* by Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press), but the recognition of species on the basis of biochemical evidence was defended by Highton (1998, Herpetologica 54: 254–278).

**P. cheoah** Highton and Peabody, 2000—Cheoah Bald Salamander

**P. chlorobryonis** Mittleman, 1951—Atlantic Coast Slimy Salamander

**P. cinereus** (Green, 1818)—Eastern Red-backed Salamander

**P. cylindraceus** (Harlan, 1825)—White-spotted Slimy Salamander

**P. dorsalis** Cope, 1889—Northern Zigzag Salamander

**P. dunni** Bishop, 1934—Dunn’s Salamander

**P. electromorphus** Highton, 1999—Northern Ravine Salamander

**P. elongatus** Van Denburgh, 1916—Del Norte Salamander

**P. fourchensis** Duncan and Highton, 1979—Fourche Mountain Salamander

**P. glutinosus** (Green, 1818)—Northern Slimy Salamander

**P. grobmani** Allen and Neill, 1949—Southeastern Slimy Salamander
**P. hoffmani** Highton, 1972 “1971”—Valley and Ridge Salamander

**P. hubrichti** Thurow, 1957—Peaks of Otter Salamander

**P. idahoensis** Slater and Slipp, 1940—Coeur d’Alene Salamander


**P. jordani** Blatchley, 1901—Jordan’s Salamander

The taxon was restricted to populations in the Great Smoky Mountains by Highton and Peabody (2000, pp. 31–94 in Bruce, R.C., et al., The Biology of Plethodontid Salamanders, Kluwer Academic/Plenum Publishers.)

**P. kentucki** Mittleman, 1951—Cumberland Plateau Salamander

**P. kiamichi** Highton, 1989—Kiamichi Slimy Salamander


**P. kisatchie** Highton, 1989—Louisiana Slimy Salamander


**P. larselli** Burns, 1954—Larch Mountain Salamander

**P. meridianus** Highton and Peabody, 2000—South Mountain Gray-cheeked Salamander

**P. metcalfi** Brimley, 1912—Southern Gray-cheeked Salamander


**P. mississippi** Highton, 1989—Mississippi Slimy Salamander


**P. montanus** Highton and Peabody, 2000—Northern Gray-cheeked Salamander

**P. neomexicanus** Stebbins and Riemer, 1950—Jemez Mountains Salamander

**P. nettingi** Green, 1938—Cheat Mountain Salamander

**P. ocmulgee** Highton, 1989—Ocmulgee Slimy Salamander


**P. ouachitae** Dunn and Heinze, 1933—Rich Mountain Salamander

**P. petraeus** Wynn, Highton and Jacobs, 1988—Pigeon Mountain Salamander
**P. punctatus** Highton, 1972 “1971”—Cow Knob Salamander  
The publication containing the type description is dated 1971, but appeared in 1972. Standard English name as employed by Conant and Collins (1991, Reptiles and Amphibians of Eastern and Central North America, Houghton Mifflin Co.), revised from that used by Collins (1997, SSAR Herpetol. Circ. 25) and Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press). “Cow Knob Salamander” has come to be used extensively in species lists, conservation plans, and by workers in the state of Virginia. The name “White Spotted Salamander” employed by Collins (1997, SSAR Herpetol. Circ. 25) is too easily confused with the name “White-spotted Slimy Salamander” employed by Collins (1997, SSAR Herpetol. Circ. 25) and used here for *Plethodon cylindraceus*.

**P. richmondi** Netting and Mittleman, 1938—Southern Ravine Salamander  
The standard English name contrasts this form with *Plethodon electromorphus*, the Northern Ravine Salamander.

**P. savannah** Highton, 1989—Savannah Slimy Salamander  

**P. sequoyah** Highton, 1989—Sequoyah Slimy Salamander  

**P. serratus** Grobman, 1944—Southern Red-backed Salamander

**P. shermani** Stejneger, 1906—Red-legged Salamander  

**P. stormi** Highton and Brame, 1965—Siskiyou Mountains Salamander  

**P. teyahalee** Hairston, 1950—Southern Appalachian Salamander  
Hairston (1993, Brimleyana 18: 65–69) believed that the name *Plethodon teyahalee* is based on a hybrid and is therefore not available. He proposed a substitute name, *P. oconoluftee* for the southern Appalachian species of the *P. glutinosus* complex. Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) followed Hairston’s proposed nomenclature for this form. The glossary of the International Code of Zoological Nomenclature defines a “hybrid” as an offspring of a mating between two different species, that is, an F₁ hybrid. The population at the type-locality possesses genes from two species, *P. shermani* and *P. teyahalee*, but appears to be a panmictic population that contains no pure individuals of either species. Thus, the type specimen cannot be an F₁ hybrid under the definition of “hybrid” employed in the Code, and the older name *Plethodon teyahalee* is available for the species the population most resembles.
**P. vandykei** Van Denburgh, 1906—Van Dyke’s Salamander

**P. variolatus** (Gilliams, 1818)—South Carolina Slimy Salamander


**P. vehiculum** (Cooper, 1860)—Western Red-backed Salamander

**P. ventralis** Highton, 1997—Southern Zigzag Salamander


**P. virginia** Highton, 1999—Shenandoah Mountain Salamander

**P. websteri** Highton, 1979—Webster’s Salamander

**P. wehrlei** Fowler and Dunn, 1917—Wehrle’s Salamander

**P. welleri** Walker, 1931—Weller’s Salamander

**P. yonahlossee** Dunn, 1917—Yonahlossee Salamander

**Pseudobranchus** Gray, 1825—DWARF SIRENS

**P. axanthus** Netting and Goin, 1942—Southern Dwarf Siren


**P. axanthus** Netting and Goin, 1942—Narrow-striped Dwarf Siren

**P. a. axanthus** Netting and Goin, 1942—Southern Dwarf Siren

**P. a. belli** Schwartz, 1952—Everglades Dwarf Siren


**P. striatus** (LeConte, 1824)—Northern Dwarf Siren

**P. s. laustricolus** Neill, 1951—Gulf Hammock Dwarf Siren

**P. s. spheniscus** Goin and Crenshaw, 1949—Slender Dwarf Siren

**P. s. striatus** (LeConte, 1824)—Broad-striped Dwarf Siren

**Pseudotriton** Tschudi, 1838—RED and MUD SALAMANDERS

**P. montanus** Baird, 1849—Mud Salamander

**P. m. diastictus** Bishop, 1941—Midland Mud Salamander

Collins’ (1997, SSAR Herpetol. Circ. 25) treatment of this form as a species has not been confirmed by published data, although the taxon is phenotypically distinctive. We follow Petranka (1998, Salamanders of the United States and Canada, Smithsonian Institution Press) in treating this form as a subspecies of *Pseudotriton montanus* until its taxonomic status is evaluated.

**P. m. flavissimus** Hallowell, 1856—Gulf Coast Mud Salamander

**P. m. floridanus** Netting and Goin, 1942—Rusty Mud Salamander

**P. m. montanus** Baird, 1849—Eastern Mud Salamander

**P. ruber** (Latreille, 1801)—Red Salamander

**P. r. nitidus** Dunn, 1920—Blue Ridge Red Salamander
P. r. ruber (Latreille, 1801)—Northern Red Salamander
P. r. schencki (Brimley, 1912)—Black-chinned Red Salamander
P. r. vioscai Bishop, 1928—Southern Red Salamander

Rhyacotriton Dunn, 1920—TORRENT SALAMANDERS
R. cascadae Good and Wake, 1992—Cascade Torrent Salamander
R. kezeri Good and Wake, 1992—Columbia Torrent Salamander
R. olympicus (Gaige, 1917)—Olympic Torrent Salamander
R. variegatus Stebbins and Lowe, 1951—Southern Torrent Salamander

Siren Linnaeus, 1766—SIRENS

S. intermedia Barnes, 1826—Lesser Siren


S. i. intermedia Barnes, 1826—Eastern Lesser Siren
S. i. nettingi Goin, 1942—Western Lesser Siren

S. lacertina Linnaeus, 1766—Greater Siren

The status of the two distantly allopatric populations (see Flores-Villela and Brandon, 1992, Ann. Carnegie Mus. 61: 289–291) in (1) south Texas and adjacent Mexico and (2) in peninsular Florida is unclear and deserves evaluation.

Sterechilus Cope, 1869—MANY-LINED SALAMANDERS

S. marginatus (Hallowell, 1856)—Many-lined Salamander

Taricha Gray, 1850—PACIFIC NEWTS

T. granulosa (Skilton, 1849)—Rough-skinned Newt
T. g. granulosa (Skilton, 1849)—Rough-skinned Newt
T. g. mazamae (Myers, 1942)—Crater Lake Rough-skinned Newt


T. rivularis (Twitty, 1935)—Red-bellied Newt
T. torosa (Rathke, 1833)—California Newt
T. t. sierrae (Twitty, 1942)—Sierra Newt
T. t. torosa (Rathke, 1833)—Coast Range Newt

Typhlotriton Stejneger, 1893—GROTTO SALAMANDERS

T. spelaeus Stejneger, 1893—Grotto Salamander
SCIENTIFIC AND STANDARD ENGLISH NAMES

Squamata — Lizards

Compiled by Kevin de Quieroz (Chair), Tod Reeder, Jack Sites, Jr.

Ameiva Meyer, 1795—AMEIVAS (Introduced)

A. ameiva (Linnaeus, 1758)—Giant Ameiva (Introduced)

Anniella Gray, 1852—NORTH AMERICAN LEGLESS LIZARDS

A. pulchra Gray, 1852—California Legless Lizard
A. p. nigra Fischer, 1885—Black Legless Lizard
A. p. pulchra Gray, 1852—Silvery Legless Lizard

Anolis Daudin, 1802—ANOLES

A. carolinensis (Voigt, 1832)—Green Anole
In addition to its native occurrence in the southeastern United States, Anolis carolinensis is established in Kauai, Oahu, Molokai, Maui, and Hawaii in the Hawaiian Islands (McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing); the subspecific identification of the introduced populations apparently has not been reported.
A. c. carolinensis (Voigt, 1832)—Northern Green Anole
A. c. seminolus Vance, 1991—Southern Green Anole

A. chlorocyanus Duméril and Bibron, 1837—Blue-green Anole
(Introduced)
Anolis chlorocyanus is established in Broward County, Florida (Butterfield et al., 1994, Herpetol. Rev. 25: 77–78).
**A. cristatellus** Duméril and Bibron, 1837—Crested Anole (Introduced)

*A. c. cristatellus* Duméril and Bibron, 1837—Puerto Rican Crested Anole (Introduced)


**A. cybotes** Cope, 1862—Large-headed Anole (Introduced)


**A. d. floridanus** Smith and McCauley, 1948—Florida Bark Anole

Schwartz (1968, Bull. Mus. Comp. Zool. 137: 255–310) reviewed the evidence and discussed alternative hypotheses concerning the occurrence of *Anolis distichus floridanus* in Florida and concluded that this taxon was most likely introduced from Andros Island in the Bahamas; nevertheless, Wilson and Porras (1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89) considered it a native component of the Florida herpetofauna. Although the specimens of *A. d. floridanus* examined by Schwartz (op. cit.) are distinguishable from those of *A. d. dominicensis*, more recent samples of Bark Anoles from Florida form a continuum, suggesting intergradation between the two subspecies (Miyamoto et al., 1986, Copeia 1986: 76–86; see next note).

**A. equestris** Merrem, 1820—Knight Anole (Introduced)

*A. e. equestris* Merrem, 1820—Western Knight Anole (Introduced)

A. garmani Stejneger, 1899—Jamaican Giant Anole (Introduced)

A. porcatus Gray, 1840—Cuban Green Anole (Introduced)
Anolis porcatus is established in Dade County, Florida (Meshaka et al., 1997, Herpetol. Rev. 28: 101–102).

A. sagrei Duméril and Bibron, 1837—Brown Anole (Introduced)
A. s. sagrei Duméril and Bibron, 1837—Cuban Brown Anole (Introduced)
Anolis sagrei is established in Florida (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein), Texas (King et al., 1987, Texas J. Sci. 39: 289–290), Louisiana (Thomas et al., 1990, Herpetol. Rev. 21: 22), and Hawaii (McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing). The populations introduced to southern Florida have spread northward into Georgia (Campbell, 1996, Herpetol. Rev. 27: 155–157 and references therein). According to Conant and Collins (1991, Reptiles and Amphibians of Eastern and Central North America, Houghton Mifflin Co.), two subspecies, A. s. sagrei and A. s. ordinatus were introduced to southern Florida, but they can no longer be distinguished from one another and differ from both original races. Lee (1992, Copeia 1992: 942–954), however, presented evidence that the Florida populations bear a much stronger phenotypic resemblance to populations from Cuba (A. s. sagrei) than to those from the Bahamas (A. s. ordinatus). According to McKeown (op. cit.), Hawaiian Brown Anoles were introduced from Florida.

Basiliscus Laurenti, 1768—BASILISKS (Introduced)

B. vittatus Wiegmann, 1828—Brown Basilisk (Introduced)

Callisaurus Blainville, 1835—ZEBRA-TAILED LIZARDS

C. draconoides Blainville, 1835—Zebra-tailed Lizard
C. d. myurus Richardson, 1915—Northern Zebra-tailed Lizard
C. d. rhodostictus Cope, 1896—Western Zebra-tailed Lizard
C. d. ventralis (Hallowell, 1852)—Eastern Zebra-tailed Lizard

Chamaeleo Laurenti, 1768—CHAMELEONS ( Introduced)

C. jacksonii Boulenger, 1896—Jackson’s Chameleon (Introduced)
C. j. xantholophus Eason, Ferguson, and Hebrard, 1988—Yellow-crested Jackson’s Chameleon (Introduced)
Cnemidophorus Wagler, 1830—WHIPTAILS


*C. arizonae* Van Denburgh, 1896—Arizona Striped Whiptail


*C. burti* Taylor, 1938—Canyon Spotted Whiptail

*C. burti* was treated as a synonym of *C. tesselatus* by Maslin and Secoy (1986, Contrib. Zool. Univ. Colorado Mus. 1: 1–60), but it was recognized as a species by Wright (1993, pp. 27–81 in Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.) and Walker et al. (1994, Texas J. Sci. 46: 27–33) because its origin is thought to have resulted from a separate hybridization event.

*C. exsanguis* Lowe, 1956—Chihuahuan Spotted Whiptail (unisexual)

*C. flagellicaudus* Lowe and Wright, 1964—Gila Spotted Whiptail (unisexual)

*C. gularis* Baird and Girard, 1852—Eastern Spotted Whiptail

See comment under *C. septemvittatus*.

*C. g. gularis* Baird and Girard, 1852—Texas Spotted Whiptail

*C. gypsi* Wright and Lowe, 1993—Little White Whiptail

*C. hyperythrus* Cope, 1863—Orange-throated Whiptail

*C. h. beldingi* (Stejneger, 1894)—Belding’s Orange-throated Whiptail

Acad. Sci. 46: 1–72) had previously synonymized the names *C. h. beldingi* and *C. h. schmidti* with *C. h. hyperythrus*. In reality, Welsh (op. cit.) did not formally synonymize any of the names in question. Instead, he suggested that differentiation was insufficient to warrant the recognition of three distinct races (which he nevertheless recognized) and that central Baja California was an area of intergradation between *C. h. beldingi* and *C. h. hyperythrus*. He also referred specimens for the Sierra San Pedro Mártir region to *C. h. schmidti*. If *C. h. schmidti* represents the intergrading populations, then this form extends from the northern Sierra San Pedro Mártir region (30°58’N; Welsh, op. cit) to San Ignacio (27°17’N; Linsdale, 1932, Univ. California Pub. Zool. 38: 345–386), which is roughly one–third of the total range of the species (see Grismer, op. cit.). Given such an extensive area of intergradation, it seems reasonable to interpret the previously recognized taxa as morphotypes rather than subspecies. On the other hand, Wright (1994, pp. 255–271 in Herpetology of the North American Deserts, P. R. Brown and J. W. Wright [eds.], Southwestern Herpetologists Society) had previously identified a diagnostic color pattern difference between *C. h. hyperythrus* and *C. h. beldingi* (he considered *C. h. schmidti* a synonym of *C. h. beldingi*) and placed the zone of intergradation between the two subspecies in southern Baja California (see also Thompson et al., 1998, Cat. Am. Amph. Rept. 655). Grismer (op. cit.) did not address this difference, and we have therefore retained the two subspecies.

*C. inornatus* Baird, 1859 “1858”—Little Striped Whiptail

Wright and Lowe (1993, J. Arizona-Nevada Acad. Sci. 27: 129–157) recognized six subspecies of *Cnemidophorus inornatus* in the United States: *arizonae*, *gypsi*, *heptagrammus*, *juniperus*, *llanuras*, and *pai*, four of which were newly described by those authors. Collins (1997, SSAR Herpetol. Circ. 25), recognized *arizonae*, *gypsi*, and *pai* as separate species, presumably because they are geographically separated and morphologically distinguishable both from one another and from the other subspecies of *C. inornatus* recognized by Wright and Lowe (op. cit.).

*C. i. heptagrammus* Axtell, 1961—Trans-Pecos Striped Whiptail

Based on a highly variable sample of *Cnemidophorus inornatus heptagrammus* from Chihuahua, Walker et al. (1996, J. Herpetol. 30: 271–275) questioned the usefulness of this taxon for describing variation within *C. inornatus*.

*C. i. juniperus* Wright and Lowe, 1993—Woodland Striped Whiptail

Walker et al. (1996, J. Herpetol. 30: 271–275) called into question some of the characters used by Wright and Lowe (1993, J. Arizona-Nevada Acad. Sci. 27: 129–157) to separate *Cnemidophorus inornatus juniperus* from *C. i. heptagrammus* but did not explicitly treat the names as synonyms.

*C. i. llanuras* Wright and Lowe, 1993—Plains Striped Whiptail

Walker et al. (1996, J. Herpetol. 30: 271–275) called into question some of the characters used by Wright and Lowe (1993, J. Arizona-Nevada Acad. Sci. 27: 129–157) to separate *Cnemidophorus inornatus llanuras* from *C. i. heptagrammus* but did not explicitly treat the names as synonyms.

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

*C. lemniscatus* complex (Linnaeus, 1758)—Rainbow Whiptail (unisexual, in part) (Introduced)

*Cnemidophorus lemniscatus* has been reported as established in Dade County, Florida (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein). However, several species, both uni– and bisexual, have been described for different parts of the taxon formerly known as *C. lemniscatus* (Cole and Dessauer, 1993, Am. Mus. Novit. 3081: 1–30; Markezich et al., 1997, Am. Mus. Novit. 3207: 1–60), and the introduced population has not yet been associated with one or more of those species.
**C. marmoratus** Baird and Girard, 1852—Marbled Whiptail

*Cnemidophorus marmoratus* (including *C. marmoratus marmoratus* and *C. 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 *C. 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) presented evidence of both differentiation and interbreeding between *marmoratus* 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.

**C. m. marmoratus** Baird and Girard, 1852—Western Marbled Whiptail


**C. m. reticuloriens** Vance, 1978—Eastern Marbled Whiptail


**C. neomexicanus** Lowe and Zweifel, 1952—New Mexico Whiptail (unisexual)

**C. neotesselatus** Walker, Cordes and Taylor, 1997—Colorado Checkered Whiptail (unisexual)

Wright (1993, pp. 27–81 in Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.) applied the name *Cnemidophorus tesselatus* to the taxon here called *C. neotesselatus*, that is, to triploid members of the *C. tesselatus* complex representing Zweifel’s (1965, Am. Mus. Novit. 2235: 1–49) pattern classes A and B. Walker et al. (1997, Herpetologica 53: 233–259), following Zweifel (op. cit.), argued that Say’s original description of *C. tesselatus* was based on lizards of pattern class D. Therefore, they applied the name *C. tesselatus* to the diploid members of the *C. tesselatus* complex representing Zweifel’s (op. cit.) pattern classes C, D, and E, and they proposed a new name, *C. neotesselatus*, for the triploid members of the complex representing pattern classes A and B.

**C. pai** Wright and Lowe, 1993—Pai Striped Whiptail

*Cnemidophorus pai* was originally described as a subspecies of *C. inornatus* by Wright and Lowe (1993, J. Arizona-Nevada Acad. Sci. 27: 129–157), but Collins (1997, SSAR Herpetol. Circ. 25) recognized it as a separate species because of allopatry and morphological diagnosability relative to the other subspecies of *C. inornatus* recognized by Wright and Lowe (op. cit.).

**C. septemvittatus** Cope, 1892—Mexican Plateau Spotted Whiptail

*Cnemidophorus septemvittatus* was treated as a subspecies of *C. gularis* by Maslin and Secoy (1986, Contrib. Zool. Univ. Colorado Mus. 1: 1–60) but as a species by Wright (1993, pp. 27–81 in Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.). The correct name of this species is unclear. The specific epithets *septemvittatus*, *scalaris*, and *semifasciatus* were all published in the same paper (Cope, 1892, Trans. Amer. Philos. Soc. 17: 27–52), on pages 40, 47, and 49, respectively. Burger (1950, Nat. Hist. Misc. 65: 1–9) considered *Cnemidophorus sackii septemvittatus* and *C. s. semifasciatus* (but not *C. s. scalaris*) consubspecific and selected *semifasciatus* over *septemvittatus*, disregarding page precedence because the type locality of *septemvittatus* was erroneous while that of *semifasciatus* apparently was not. He applied the name *C. s. semifasciatus* to a taxon whose distribution did not include the type locality associated with that name. Duellman and Zweifel (1962, Bull. Amer. Mus. Nat. Hist. 123: 155–210) considered all three forms conspecific but heterosubspecific and used *septemvittatus* as the name of the species, following page priority in deliberate contradiction to Burger’s action. Williams and Smith (1963, Herpetologica 19: 68–69) criticized Duellman and Zweifel’s decision to ignore the precedence of *semifasciatus* over *septemvittatus* established by Burger, but they selected *scalaris* over *semifasciatus* and ignored the precedence of *septemvittatus* over *scalaris* established by Duellman and Zweifel, using *C. scalaris* as the name of the species. Because the precedence of names in pairs established by these three sets of authors (*semifasciatus* over *septemvittatus* by Burger, *septemvittatus* over *scalaris* by Duellman and Zweifel, *scalaris* over *semifasciatus* by Williams and Smith) did not establish a clear order of precedence when all three names are considered synonyms, we have used the name adopted by Wright (op. cit.).

*C. s. septemvittatus* Cope, 1892—Big Bend Spotted Whiptail

**C. sexlineatus** (Linnaeus, 1766)—Six-lined Racerunner

*C. s. sexlineatus* (Linnaeus, 1766)—Eastern Six-lined Racerunner

*C. s. stephensae* Trauth, 1992—Texas Yellow-headed Racerunner

The subspecific name was spelled “*stephensi*” in the original description (Trauth, 1992, Texas J. Sci. 44: 437–443) but was later corrected to “*stephensae*” (Trauth, 1995, Bull. Chicago Herpetol. Soc. 30: 68).
**C. s. viridis** Lowe, 1966—Prairie Racerunner

**C. sonorae** Lowe and Wright, 1964—Sonoran Spotted Whiptail (unisexual)

**C. tesselatus** (Say, 1823)—Common Checkered Whiptail (unisexual)

Wright (1993, pp. 27–81 in Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.) applied the name *Cnemidophorus grahamii* Baird and Girard 1852 to the taxon here called *C. tesselatus*, that is, to diploid members of the *C. tesselatus* complex representing Zweifel’s (1965, Am. Mus. Novit. 2235: 1–49) pattern classes C, D, and E; he applied the name *C. tesselatus* to triploid members of the complex representing pattern classes A and B. Walker et al. (1997, Herpetologica 53: 233–259), following Zweifel (op. cit.), argued that Say’s original description of *C. tesselatus* was based on lizards of pattern class D. Therefore, they applied the name *C. tesselatus* to the diploid members of the *C. tesselatus* complex representing Zweifel’s (op. cit.) pattern classes C, D, and E, and they treated the name *C. grahamii*, based on cotypes representing pattern classes E (the paralectotype; Zweifel, op. cit.) and C (the lectotype; K. de Queiroz, personal observation), as a junior synonym.

**C. tigris** Baird and Girard, 1852—Tiger Whiptail

**C. t. mundus** Camp, 1916—California Whiptail


**C. t. punctilinealis** Dickerson, 1919—Sonoran Tiger Whiptail

This taxon was formerly called *Cnemidophorus tigris gracilis*. Taylor and Walker (1996, Copeia 1996: 140–148) presented evidence that *C. t. gracilis* is a junior synonym of *C. t. tigris*, and they considered *C. t. punctilinealis* the oldest available name for the taxon formerly called *C. t. gracilis*.

**C. t. septentrionalis** Burger, 1950—Plateau Tiger Whiptail

**C. t. stejnegeri** Van Denburgh, 1894—Coastal Whiptail

Some authors (e.g., Smith and Taylor, 1950, Bull. U. S. Natl. Mus. 199: 1–253) have treated the name *Cnemidophorus tigris stejnegeri* as a junior synonym of *C. t. multiscutatus* Cope 1892; others (e.g., Maslin and Secoy, 1986, Contrib. Zool. Univ. Colorado Mus. 1: 1–60; Wright, 1993, Pp. 27–81 in Biology of Whiptail Lizards [Genus *Cnemidophorus*], J. W. Wright and L. J. Vitt [eds.], Oklahoma Mus. Nat. Hist.) have treated those names as the names of different taxa, both of which were considered to occur in (coastal?) southern California. Following Maslin and Walker (1981, Am. Midl. Nat. 105: 84–92), we have treated *C. t. multiscutatus* endemic (type locality: Isla Cedros, Baja California) as the name of an insular and *C. t. stejnegeri* (type locality: Ensenada, Baja California) as the name of the subspecies occurring in coastal southern California.

**C. t. tigris** Baird and Girard, 1852—Great Basin Whiptail

**C. uniparens** Wright and Lowe, 1965—Desert Grassland Whiptail (unisexual)

**C. velox** Springer, 1928—Plateau Striped Whiptail (unisexual)

parthenogens and treated *C. innotatus* as the name of a separate diploid species. Cuellar (1977, Evolution 31: 24–31) found histoincompatibility (rejection of skin grafts) between *C. velox*-like lizards from Colorado, New Mexico, and Utah, which Cuellar and Wright (1992, Comp. Rend. Soc. Biogeogr. 68: 157–160) interpreted as potential evidence for different ploidy levels. The type locality of *C. velox* is in Arizona, while that of *C. innotatus* is in Utah, and lizards from New Mexico are known to be triploid (Neaves, 1969, J. Exper. Zool. 171: 175–184; Dessauer and Cole, 1989, Pp. 49–71 in Evolution and ecology of unisexual vertebrates, R. M. Dawley and J. P. Bogart [eds.], New York State Museum). If lizards from the type locality of *C. innotatus* turn out to be diploid, it would be reasonable to recognize a separate diploid species and apply the name *C. innotatus* (Plateau Spotted Whiptail) to it.

*C. xanthonotus* Duellman and Lowe 1953—Red-backed Whiptail

**Coleonxy** Gray, 1845—BANDED GECKOS

*C. brevis* Stejneger, 1893—Texas Banded Gecko
*C. reticulatus* Davis and Dixon, 1958—Reticulate Banded Gecko
*C. switaki* (Murphy, 1974)—Switak’s Banded Gecko
   *C. s. switaki* (Murphy, 1974)—Peninsular Banded Gecko
*C. variegatus* (Baird, 1859 “1858”)—Western Banded Gecko
   *C. v. abbotti* Klauber, 1945—San Diego Banded Gecko
   *C. v. bogerti* Klauber, 1945—Tucson Banded Gecko
   *C. v. utahensis* Klauber, 1945—Utah Banded Gecko
   *C. v. variegatus* (Baird, 1859)—Desert Banded Gecko

**Cophosaurus** Troschel, 1852 “1850”—GREATER EARLESS LIZARDS

*C. texanus* Troschel, 1852 “1850”—Greater Earless Lizard
   *C. t. scitulus* (Peters, 1951)—Chihuahuan Greater Earless Lizard
   *C. t. texanus* Troschel, 1852 “1850”—Texas Greater Earless Lizard

**Cosymbotus** Fitzinger, 1843—ASIAN HOUSE GECKOS (Introduced)

*C. platyurus* (Schneider, 1792)—Flat-tailed House Gecko (Introduced)
*Cosymbotus platyurus* is established in Pinellas County, Florida (Meshaka and Lewis, 1994, Herpetol. Rev. 25: 127).
**Crotaphytus** Holbrook, 1842—COLLARED LIZARDS


- **C. bicinctores** Smith and Tanner, 1972—Great Basin Collared Lizard
- **C. collaris** (Say, 1823)—Eastern Collared Lizard
- **C. nebricus** Axtell and Montanucci, 1977—Sonoran Collared Lizard
- **C. reticulatus** Baird, 1859 “1858”—Reticulate Collared Lizard
- **C. vestigium** Smith and Tanner, 1972—Baja California Collared Lizard

McGuire (1996, Bull. Carnegie Mus. Nat. Hist. 32: 1–143) noted that the name *Crotaphytus vestigum* 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, 1985: Article 57), the correct name for this taxon is *C. fasciolatus*; however, for the reasons noted above, McGuire (1999, Bull. Zool. Nomencl. submitted) 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.

**Ctenosaura** Wiegmann, 1828—SPINY-TAILED IGUANAS (Introduced)


- **C. pectinata** (Wiegmann, 1834)—Western Spiny-tailed Iguana (Introduced)


**Cryptoblepharus** Wiegmann, 1834—SNAKE-EYED SKINKS


- **C. poecilopleurus** (Wiegmann, 1834)—Mottled Snake-eyed Skink

According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing), *Cryptoblepharus poecilopleurus* probably was present in Hawaii before the arrival of Europeans.

**Cyrtopodion** Fitzinger, 1843—BOWFOOT GECKOS (Introduced)


- **C. scabrum** (Heyden, 1827)—Rough-tailed Gecko (Introduced)

*Cyrtopodion scabrum* is established in Galveston, Texas (Selcer and Bloom, 1984, Southwest. Natur. 29: 499-500). The specific epithet is often spelled *scaber*, as it was in the original combination *Stenodactylus scaber*. However, the name *scaber* is masculine (as is *Stenodactylus*), while *Cyrtopodion* is neuter. Therefore, the correct form of the epithet in combination with *Cyrtopodion* is the neuter form *scabrum* (see ICZN, 1999, Article 31.2).
Dipsosaurus Hallowell, 1854—DESSERT IGUANAS

**D. dorsalis** (Baird and Girard, 1852)—Desert Iguana
  *D. d. dorsalis* (Baird and Girard, 1852)—Northern Desert Iguana

Elgaria Gray, 1838—WESTERN ALLIGATOR LIZARDS

**E. coerulea** (Wiegmann, 1828)—Northern Alligator Lizard
  *E. c. coerulea* (Wiegmann, 1828)—San Francisco Alligator Lizard
  *E. c. palmeri* (Stejneger, 1893)—Sierra Alligator Lizard
  *E. c. principis* Baird and Girard, 1852—Northwestern Alligator Lizard
  *E. c. shastensis* (Fitch, 1934)—Shasta Alligator Lizard

**E. kingii** Gray, 1838—Madrean Alligator Lizard
  *E. k. nobilis* Baird and Girard, 1852—Arizona Alligator Lizard

**E. multicarinata** (Blainville, 1835)—Southern Alligator Lizard
  *E. m. multicarinata* (Blainville, 1835)—California Alligator Lizard
  *E. m. scincicauda* (Skilton, 1849)—Oregon Alligator Lizard
  *E. m. webbii* (Baird, 1859 “1858”)—San Diego Alligator Lizard

**E. panamintina** (Stebbins, 1958)—Panamint Alligator Lizard

Emoia Gray, 1845—EMOIAS

**E. cyanura** (Lesson, 1830)—Copper-tailed Skink (Introduced)
Emoia cyanura occurs on Kauai, Hawaiian Islands, where it may or may not have been introduced prior to the arrival of Europeans (see discussion in McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing).

**E. impar** (Werner, 1898)—Azure-tailed Skink
According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing), *Emoia impar* probably was present in Hawaii before the arrival of Europeans.

Eumeces Wiegmann, 1834—GREAT SKINKS
**SSAR HERPETOLOGICAL CIRCULAR 29**


**E. anthracinus** (Baird, 1850)—Coal Skink
- *E. a. anthracinus* (Baird, 1850)—Northern Coal Skink
- *E. a. pluvialis* Cope, 1880—Southern Coal Skink

**E. callicephalus** Bocourt, 1879—Mountain Skink


**E. egregius** (Baird, 1859 “1858”)—Mole Skink
- *E. e. egregius* (Baird, 1859)—Florida Keys Mole Skink
- *E. e. insularis* Mount, 1965—Cedar Key Mole Skink


**E. fasciatus** (Linnaeus, 1758)—Common Five-lined Skink

**E. gilberti** Van Denburgh, 1896—Gilbert’s Skink

A study in progress by Richmond (1999, ASIH-HL-SSAR abstract; pers. comm.) indicates that various populations currently referred to *Eumeces gilberti* are more closely related to geographically proximate populations of *E. skiltonianus* than to other populations of *E. gilberti*, suggesting that the taxonomy of both currently recognized species needs to be reassessed.

**E. g. arizonensis** Lowe and Shannon, 1954—Arizona Skink


**E. inexpectatus** Taylor, 1932—Southeastern Five-lined Skink

**E. laticeps** (Schneider, 1801)—Broad-headed Skink

**E. multivirgatus** (Hallowell, 1857)—Many-lined Skink
- *E. m. epipleurotus* Cope, 1880—Variable Skink
- *E. m. multivirgatus* (Hallowell, 1857)—Northern Many-lined Skink

**E. obsoleteus** (Baird and Girard, 1852)—Great Plains Skink
**E. septentrionalis** (Baird, 1859 “1858”)—Prairie Skink

_Eumeces septentrionalis septentrionalis_ and _E. s. obtusirostris_ have sometimes been recognized as species based on allopatry and morphological diagnosability (e.g., Collins, 1991, Herpetol. Rev. 22: 42–43; and 1993, Univ. Kansas Mus. Nat. Hist. Public Edu. Ser. No. 13). However, the name _E. s. pallidus_, absent from the literature of the last 40 years, apparently has never been explicitly treated as a synonym of either _E. s. septentrionalis_ or _E. s. obtusirostris_. We have retained the older arrangement of a single species with three subspecies until a rearrangement is proposed based on a study of all three taxa.

_E. s. obtusirostris_ Bocourt, 1879—Southern Prairie Skink
_E. s. pallidus_ Smith and Slater, 1949—Pallid Skink
_E. s. septentrionalis_ (Baird, 1859)—Northern Prairie Skink

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

See note for _Eumeces gilberti_.

_E. s. interparietalis_ Tanner, 1958 “1957”—Coronado Skink
_E. s. skiltonianus_ (Baird and Girard, 1852)—Skilton’s Skink
_E. s. utahensis_ Tanner, 1958 “1957”—Great Basin Skink

**E. tetragrammus** (Baird, 1859 “1858”)—Four-lined Skink


_E. t. brevilineatus_ Cope, 1880—Short-lined Skink
_E. t. tetragrammus_ (Baird, 1859)—Long-lined Skink

**Gambelia** Baird 1859 “1858”—LEOPARD LIZARDS


_G. copeii_ (Yarrow, 1882)—Cope’s Leopard Lizard
_G. sila_ (Stejneger, 1890)—Blunt-nosed Leopard Lizard

McGuire (1996, Bull. Carnegie Mus. Nat. Hist. 32: 1–143) spelled the specific name “silus”; however, given that the name _Gambelia_ is feminine (ICZN, 1999: Article 30.2.4) and that the name _silus_ is a Latin adjective or participle, the spelling should be changed to “sila” when combined with _Gambelia_ (ICZN, 1999: Article 31.2) (Frost and Collins, 1988, Herpetol. Rev. 19: 73–74).

_G. wislizenii_ (Baird and Girard, 1852)—Long-nosed Leopard Lizard

**Gehyra** Gray, 1834—DTELLAS


_G. mutilata_ (Wiegmann, 1834)—Stump-toed Gecko

According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing), _Gehyra mutilata_ probably was present in Hawaii before the arrival of Europeans. This species is also established in San Diego, California (Smith and Kohler, 1978, Trans. Kansas Acad. Sci. 80: 1–24 and references therein). The date of publication of the name _Hemidactylus mutilatus_ (=_Gehyra mutilata_) is sometimes given as 1835 (e.g., Kluge, 1991, Smithsonian Herpetol. Info. Serv. 85: 1–35) presumably based on the idea that the species was first described in a publication by Wiegmann in Nova Acta Acad. Caes. Leop. Carol. Nat. Cur., the date of which is either 1834 or 1835; however, the first valid use of the name is in Wiegmann (1834, Herpetologia Mexicana; see Bauer and Adler, in press, Arch. Nat. Hist., for a discussion of the dates of the relevant publications).
**Gekko** Laurenti, 1768—TROPICAL ASIAN GECKOS (Introduced)

- **G. gecko** (Linnaeus, 1758)—Tokay Gecko (Introduced)
- **G. g. gecko** (Linnaeus, 1758)—Common Tokay Gecko

**Gekko gecko gecko** is established in Dade and Broward Counties, Florida (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89) and on Oahu in the Hawaiian Islands (McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing). The subspecific identification for the Florida populations is from Smith and Kohler (1978, Trans. Kansas Acad. Sci. 80: 1–24); the subspecific identification for Hawaiian Tokay Geckos was not given by McKeown (op. cit.); however, if they were introduced from southeast Asia, as stated by McKeown, then the subspecies is also **G. g. gecko**.

**Gerrhonotus** Wiegmann, 1828—EASTERN ALLIGATOR LIZARDS

- **G. infernalis** Baird, 1859 “1858”—Texas Alligator Lizard

**Gonatodes** Fitzinger, 1843—BENT-TOED GECKOS (Introduced)

- **G. albogularis** (Duméril and Bibron, 1836)—Yellow-headed Gecko (Introduced)
- **G. a. fuscus** (Hallowell, 1855)—Dusky Yellow-headed Gecko (Introduced)


**Heloderma** Wiegmann, 1829—GILA MONSTERS and BEADED LIZARDS

- **H. suspectum** Cope, 1869—Gila Monster
- **H. s. cinctum** Bogert and Martín del Campo, 1956—Banded Gila Monster
- **H. s. suspectum** Cope, 1869—Reticulate Gila Monster

**Hemidactylus** Gray, 1825—HOUSE GECKOS

- **H. frenatus** Duméril and Bibron, 1836—Common House Gecko (Introduced)


- **H. garnotii** Duméril and Bibron, 1836—Indo-Pacific Gecko (unisexual)

According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing), **Hemidactylus garnotii** probably was present in Hawaii before the arrival of Europeans. This species is also widespread in southern Florida, where it has been introduced (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein). Kluge and Eckardt (1969, Copeia 1969: 651–664) presented evidence that **H. garnotii** is parthenogenetic.
**H. mabouia** (Moreau de Jonnès, 1818)—Amerafrican House Gecko (Introduced)

*Hemidactylus mabouia* occurs in several counties in southern Florida, where it has been introduced (Powell et al., 1998, Cat. Am. Amph. Rept. 674. and references therein).

**H. turcicus** (Linnaeus, 1758)—Mediterranean House Gecko (Introduced)

*H. t. turcicus* (Linnaeus, 1758)—Turkish House Gecko (Introduced)


**Hemiphyllodactylus** Bleeker, 1860—GYPSY GECKOS


**H. typus** Bleeker, 1860—Indopacific Tree Gecko

*H. t. typus* Bleeker, 1860—Common Indopacific Tree Gecko (unisexual)


**Holbrookia** Girard, 1851—LESSER EARLESS LIZARDS


**H. lacerata** Cope, 1880—Spot-tailed Earless Lizard

*H. l. lacerata* Cope, 1880—Northern Spot-tailed Earless Lizard

*H. l. subcaudalis* Axtell, 1956—Southern Spot-tailed Earless Lizard

**H. maculata** Girard, 1851—Common Lesser Earless Lizard

*H. m. approximans* Baird, 1859 “1858”—Speckled Earless Lizard

*H. m. bunkeri* Smith, 1935—Bunker’s Earless Lizard

Occurrence of *Holbrookia maculata bunkeri* in the United States (New Mexico) was reported by Axtell (1958, Ph.D. dissertation, Univ. Texas).

*H. m. maculata* Girard, 1851—Great Plains Earless Lizard

*H. m. perspicua* Axtell, 1956—Prairie Earless Lizard
**H. m. pulchra** Schmidt, 1921—Huachuca Earless Lizard

*Holbrookia maculata pulchra* was considered a synonym of *H. m. thermophila* by Duellman (1955, Occ. Pap. Mus. Zool. Univ. Michigan 569: 1–14) and Axtell (1958, Ph.D. dissertation, Univ. Texas); however, this taxon has been recognized as a separate subspecies or species in all previous versions of this list and its precursors that were published subsequent to the original description of *H. pulchra* (i.e. Stejneger and Barbour 1923, 1933, 1939, 1943, A checklist of North American amphibians and reptiles, Harvard Univ. Press, Cambridge, editions 1–4; Schmidt, 1953, A check list of North American amphibians and reptiles. Univ. Chicago Press, Chicago; Conant et al., 1956, Copeia 1956: 172–185; Collins et al., 1978, SSAR Herpetol. Circ. 7; 1982, SSAR Herpetol. Circ. 12; Collins 1990, Herpetol. Circ. 19; 1997, Herpetol. Circ. 25).

**H. m. ruthveni** Smith, 1943—Bleached Earless Lizard

**H. m. thermophila** Barbour, 1921—Sonoran Earless Lizard

Some authors (e.g., Lowe, 1964, Pp. 153–174 in *The vertebrates of Arizona*, C. H. Lowe [ed.], Univ. Arizona Press; see also Adest, 1978, Ph.D. dissertation, Univ. California, Los Angeles; Wilgenbusch and de Queiroz, Syst. Biol 49: 592–612) have treated *Holbrookia maculata thermophila* together with the Mexican endemic *H. maculata elegans* as a separate species. If so, the species is *H. elegans* (Elegant Earless Lizard) and the subspecies is *H. e. thermophila*.

**H. propinqua** Baird and Girard 1852—Keeled Earless Lizard

**Iguana** Laurenti, 1768—GREEN IGUANAS (Introduced)


*I. iguana* (Linnaeus, 1758)—Common Green Iguana (Introduced)

*Iguana iguana* is established in the Hawaiian Islands (McKeown, 1996, *A field guide to reptiles and amphibians in the Hawaiian Islands*, Diamond Head Publishing) and in Dade and Collier Counties, Florida (Wilson and Porrás, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein). Frost and Collins (1988, Herpetol. Rev. 19: 73–74) noted that the original spelling of the specific epithet was “*igvana*” and not “*iguana*”. However, the new version of the Code (ICZN, 1999) places greater weight on use than original spelling. According to Article 33.3.1, when an incorrect subsequent spelling is in prevailing use and is attributed to the publication of the original spelling, the subsequent spelling and attribution are to be preserved and the spelling is deemed to be a correct original spelling. Therefore, given that the prevailing spelling is “*iguana*,” and given that the epithet is normally attributed to Linnaeus, this spelling should be retained and treated as a correct original spelling.

**Lacerta** Linnaeus, 1758—LACERTAS (Introduced)


*L. viridis* (Laurenti, 1768)—European Green Lizard (Introduced)

*Lacerta viridis* is established in Shawnee County, Kansas (Collins, 1993, Univ. Kansas Mus. Nat. Hist. Public Educ. Ser. No. 13; Gubanyi and Gubanyi, 1997, Herpetol. Rev. 28: 96); the subspecific identification apparently has not been reported (see Smith and Kohler,
Lampropholis Fitzinger, 1843—METALLIC SKINKS (Introduced)
Taxonomy for Lampropholis follows Cogger et al. (1983, Zoological catalogue of

L. delicata (De Vis, 1888)—Rainbow Skink (Introduced)
Lampropholis delicata was probably introduced to Hawaii (Baker, 1979, Pacific Sci. 33:
207–212; McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian
Islands, Diamond Head Publishing).

Leiocephalus Gray, 1827—CURLY-TAILED LIZARDS (Introduced)
Hist. 84: 1–69).

L. carinatus Gray, 1827—Northern Curly-tailed Lizard (Introduced)
L. c. armouri Barbour and Shreve, 1935—Little Bahama Curly-tailed
Lizard (Introduced)
Leiocephalus carinatus armouri is established in Palm Beach and Dade Counties, Florida
ences therein).

L. schreibersii (Gravenhorst, 1837)—Red-sided Curly-tailed Lizard
(Introduced)
According to Schreiber et al. (1995, Cat. Am. Amphib. Rept. 613), Leiocephalus
schreibersii does not exhibit the tail curling behavior seen in other species of
Leiocephalus, in which case the standard English name used here is a misnomer.

L. s. schreibersii (Gravenhorst, 1837)—Schreibers’ Curly-tailed Lizard
(Introduced)
Leiocephalus schreibersii schreibersii is established in Dade County, Florida (Wilson and

Lepidodactylus Fitzinger, 1843—SCALE-TOED GECKOS
Taxonomy for Lepidodactylus follows Kluge (1991, Smithsonian Herpetol. Info. Serv. 85:

L. lugubris complex (Duméril and Bibron, 1836)—Mourning Gecko
(unisexual)
According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian
Islands, Diamond Head Publishing), Lepidodactylus lugubris probably was present in
Hawaii before the arrival of Europeans. As currently recognized, L. lugubris consists of
both diploid and triploid clones. The diploid clones appear to have originated from at least
two separate interspecific hybridizations and the triploid clones from crosses between
females of one of the diploid clones and males from perhaps three different bisexual
14–26) reported unisexual reproduction in this taxon.

Lipinia Gray, 1845—LIPINIAS

L. noctua (Lesson, 1830)—Moth Skink
According to McKeown (1996, A field guide to reptiles and amphibians in the Hawaiian
Islands, Diamond Head Publishing), Lipinia noctua probably was present in Hawaii before
the arrival of Europeans.

**Neoseps** Stejneger, 1910—FLORIDA SAND SKINKS

*N. reynoldsi* Stejneger, 1910—Florida Sand Skink

**Ophisaurus** Daudin, 1803—GLASS LIZARDS

*O. attenuatus* Cope, 1880—Slender Glass Lizard

*O. a. attenuatus* Cope, 1880—Western Slender Glass Lizard

*O. a. longicaudus* McConkey, 1952—Eastern Slender Glass Lizard

*O. compressus* Cope, 1900—Island Glass Lizard

*O. mimicus* Palmer, 1987—Mimic Glass Lizard

*O. ventralis* (Linnaeus, 1766)—Eastern Glass Lizard

**Petrosaurus** Boulenger, 1885—CALIFORNIA ROCK LIZARDS

*P. mearnsi* (Stejneger, 1894)—Banded Rock Lizard

*P. m. mearnsi* (Stejneger, 1894)—Mearns’ Rock Lizard

**Phelsuma** Gray, 1825—DAY GECKOS (Introduced)

*P. guimbeaui* Mertens, 1963—Orange-spotted Day Gecko (Introduced)

*P. g. guimbeaui* Mertens, 1963—Guimbeau’s Day Gecko (Introduced)

*Phelsuma guimbeaui guimbeaui* is established on Oahu in the Hawaiian Islands (McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing).

*P. laticauda* (Boettger, 1880)—Broad-tailed Day Gecko (Introduced)

*P. l. laticauda* (Boettger, 1880)—Gold Dust Day Gecko (Introduced)

*Phelsuma laticauda laticauda* is established on Oahu, Hawaii, and Maui in the Hawaiian Islands (McKeown, 1996, A field guide to reptiles and amphibians in the Hawaiian Islands, Diamond Head Publishing).

**Phrynosoma** Wiegmann, 1828—HORNED LIZARDS

*P. cornutum* (Harlan, 1825)—Texas Horned Lizard

*P. coronatum* (Blainville, 1835)—Coast Horned Lizard

*P. douglasii* (Bell, 1829)—Pigmy Short-horned Lizard

Hammerson and Smith (1991, Bull. Maryland Herpetol. Soc. 27: 121–127) selected one of two alternative spellings of the specific epithet in Bell’s original description of *P. douglasii* as correct (i.e., the one with a single “s”). They also argued for the use of a single terminal “i.” We have retained the original “ii” in accordance with the Zoological Code (ICZN, 1999: Article 33.4).
**P. hernandesi** Girard, 1858—Greater Short-horned Lizard

Girard is sometimes cited parenthetically as the author of *Phrynosoma hernandesi*, presumably because he used the combination *Tapaya hernandesi* in the heading of his description (Girard, 1858, United States Exploring Expedition, Volume 20. Herpetology. J. B. Lippincott and Co.). However, Girard (op. cit.) explicitly treated *Phrynosoma* as a genus and *Tapaya* as a subgenus, and elsewhere in the same publication (p. 392) he used the combination *Phrynosoma hernandesi*. Therefore, his name is not cited parenthetically here (see ICZN, 1999: Article 51.3). Smith et al. (1999, Herpetol. Rev. 30: 111) concluded that the correct spelling of the specific epithet is “*hernandesi*” rather than “*hernandezi*”.

**P. h. hernandesi** Girard, 1858—Hernandez’s Short-horned Lizard

Zamudio et al. (1997, Syst. Biol. 46: 284–305) did not explicitly propose to eliminate the previously recognized subspecies taxa within *P. hernandesi* (i.e., those subspecies formerly within *P. douglasii* that now make up *P. hernandesi*), though they presented evidence that the subspecies *brevirostre, hernandesi*, and *ornatissimum*, as previously circumscribed, are artificial assemblages of populations. They also did not sample the Mexican taxon formerly known as *P. d. brachycercum*, which they noted shares morphological characters with *P. hernandesi*. The possibilities remain that *brachycercum* constitutes (1) a lineage that is related to but fully separated from *P. hernandesi*, (2) a partially separated lineage within *P. hernandesi*, or (3) an unseparated (artificial) part of the *hernandesi* lineage. Until the status of this taxon is addressed explicitly, we have treated it as a valid subspecies taxon, and for this reason, we have treated the remaining populations of *P. hernandesi*, including all those occurring in the United States, as the subspecies *P. h. hernandesi*.

**P. mcallii** (Hallowell, 1852)—Flat-tailed Horned Lizard

**P. modestum** Girard, 1852—Round-tailed Horned Lizard

**P. platyrhinos** Girard, 1852—Desert Horned Lizard

According to Pianka (1991, Cat. Am. Amph. Rept. 517), the putative diagnostic characters for the subspecies of *Phrynosoma platyrhinos* are not reliable, which calls the taxa themselves into question.

**P. p. calidiarum** (Cope, 1896)—Southern Desert Horned Lizard

**P. p. goodei** Stejneger, 1893—Goode’s Desert Horned Lizard

Pianka (1991, Cat. Am. Amph. Rept. 517) indicated the occurrence of *Phrynosoma platyrhinos goodei* in Arizona; however, he considered the subspecies of *Phrynosoma platyrhinos* unreliable (see note for *P. platyrhinos*) and assigned specimens to the various subspecies according to locality. In the case of *P. p. goodei*, Pianka seems to have followed Reeve’s (1952, Univ. Kansas Sci. Bull. 34: 817–960) distribution map, according to which the occurrence of this taxon in southern Arizona was hypothesized but undocumented.

**P. p. platyrhinos** Girard, 1852—Northern Desert Horned Lizard

**P. solare** Gray, 1845—Regal Horned Lizard

**Phylodactylus** Gray, 1828—LEAFTOED GECKOS


**P. nocticolus** Dixon, 1964—Peninsular Leaf-toed Gecko

**Podarcis** Wagler, 1830—WALL LIZARDS (Introduced)

Taxonomy for *Podarcis* follows Böhme (1986, Handbuch der Reptilien und Amphibien
**Podarcis muralis** (Laurenti, 1768)—Common Wall Lizard (Introduced)


**Podarcis sicula** (Rafinesque, 1810)—Italian Wall Lizard (Introduced)


**Rhineura** Cope, 1861—WIDE-SNOU TED WORM LIZARDS


**R. floridana** (Baird, 1859 “1858”)—Florida Worm Lizard

**Sauromalus** Duméril, 1856—CHUCKWALLAS


**S. 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., Bull. Zool. Nomen., submitted) is not followed here because both names were in use prior to their treatment as synonyms by Hollingsworth (1998, Herpetol. Monog. 12: 38–191).

**Sceloporus** Wiegmann, 1828—SPINY LIZARDS


**S. arenicolus** Degenhardt and Jones, 1972—Dunes Sagebrush Lizard

*Sceloporus arenicolus* was originally described as a subspecies of *S. graciosus* (Degenhardt and Jones, 1972, Herpetologica 28: 212–217; see also Censky, 1986, Cat.

**S. clarkii** Baird and Girard, 1852—Clark’s Spiny Lizard

*S. c. clarkii* Baird and Girard, 1852—Sonoran Spiny Lizard

*S. c. vallaris* Shannon and Urbano, 1954—Plateau Spiny Lizard

**S. cyanogenys** Cope, 1885—Blue Spiny Lizard

Olson (1987, Bull. Maryland Herpetol. Soc. 23: 158–167) treated *Sceloporus cyanogenys* as a subspecies of *S. serrifer* based on apparent integrades between the two forms. However, the results of Weins and Reeder (1997, Herpetol. Monog. 11: 1–101) suggest that the two forms are not even closest relatives, though relevant relationships are weakly supported. We have retained *S. cyanogenys* pending a more detailed study of this problem.

**S. graciosus** Baird and Girard, 1852—Common Sagebrush Lizard

*S. g. gracilis* Baird and Girard, 1852—Western Sagebrush Lizard

*S. g. graciosus* Baird and Girard, 1852—Northern Sagebrush Lizard

*S. g. vandenburgianus* Cope, 1896—Southern Sagebrush Lizard


**S. grammicus** Wiegmann, 1828—Graphic Spiny Lizard

Lizards formerly referred to *Sceloporus grammicus* include populations in central Mexico that have been treated as separate species, *S. anahuacus* and *S. palaciosi* (Lara–Gongora, 1983, Bull. Maryland Herpetol. Soc. 19: 1–14), and this proposal has been supported by independent evidence (Sites et al., 1988, Herpetologica 44: 297–307; Sites and Davis, 1989, Evolution 43: 296–317). Populations elsewhere in central Mexico and further north, extending into Texas, are part of a complex series of chromosome races that contain additional species (Sites, 1983, Evolution 37: 38–53; Arévalo et al., 1991, Herpetol. Monog. 5: 79–115). Types should be re-examined before these species are named, and it may be that neither the name *microlepidotus* nor the name *grammicus* applies to the populations in southern Texas.

*S. g. microlepidotus* Wiegmann, 1828—Mesquite Lizard

**S. jarrovii** Cope, 1875—Mountain Spiny Lizard

*S. j. jarrovii* Cope, 1875—Yarrow’s Spiny Lizard

**S. magister** Hallowell, 1854—Desert Spiny Lizard

Grismer and McGuire (1996, Herpetologica 52: 416–427) did not recognize subspecies of *Sceloporus magister*; however, that decision seems to have been based on a philosophical opposition to the recognition of subspecies rather than an analysis indicating that the taxa in question do not represent even partially separated lineages.

*S. m. bimaculosus* Phelan and Brattstrom, 1955—Twin-spotted Spiny Lizard

*S. m. cephaloflavus* Tanner, 1955—Orange-headed Spiny Lizard
**S. m. magister** Hallowell, 1854—Purple-backed Spiny Lizard

**S. m. transversus** Phelan and Brattstrom, 1955—Barred Spiny Lizard

**S. m. uniformis** Phelan and Brattstrom, 1955—Yellow-backed Spiny Lizard

**S. merriami** Stejneger, 1904—Canyon Lizard

**S. m. annulatus** Smith, 1937—Big Bend Canyon Lizard

**S. m. longipunctatus** Olson, 1973—Presidio Canyon Lizard

**S. m. merriami** Stejneger, 1904—Merriam’s Canyon Lizard

**S. occidentalis** Baird and Girard, 1852—Western Fence Lizard

Smith et al. (1992, Bull. Maryland Herpetol. Soc. 28: 123–149) considered *Sceloporus occidentalis* a superspecies composed of two groups ranked as exerges: I. *S. o.* (exerge *occidentalis*) *occidentalis* and *S. o.* (exerge *biseriatus*) *biseriatus*, *S. o.* (biseriatus) *becki*, and *S. o.* (biseriatus) *taylori*. A study in progress by Archie (1999, ASIH-HL-SSAR abstract) indicates that at least some of the currently recognized subspecies of *Sceloporus occidentalis* are artificial groups.

**S. o. becki** Van Denburgh, 1905—Island Fence Lizard

Wiens and Reeder (1997, Herpetol. Monog. 11: 1–101) suggested that *Sceloporus occidentalis becki* should probably be recognized as a species on the basis of diagnosability and allopatry relative to other *S. occidentalis*.

**S. o. biseriatus** Hallowell, 1854—San Joaquin Fence Lizard

**S. o. bocourtii** Boulenger, 1885—Coast Range Fence Lizard

**S. o. longipes** Baird, 1859 “1858”—Great Basin Fence Lizard

**S. o. occidentalis** Baird and Girard, 1852—Northwestern Fence Lizard

**S. o. taylori** Camp, 1916—Sierra Fence Lizard

**S. olivaceus** Smith, 1934—Texas Spiny Lizard

**S. orcuttii** Stejneger, 1893—Granite Spiny Lizard

**S. poinsettii** Baird and Girard, 1852—Crevice Spiny Lizard

**S. p. poinsettii** Baird and Girard, 1852—Northern Crevice Spiny Lizard

**S. slevini** Smith, 1937—Slevin’s Bunchgrass Lizard

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

Smith et al. (1992, Bull. Maryland Herpetol. Soc. 28: 123–149) considered *Sceloporus undulatus* a superspecies composed of three groups ranked as exerges: I. *S. u.* (exerge *undulatus*) *undulatus* and *S. u.* (undulatus) *hyacinthinus*; II. *S. u.* (exerge *consobrinus*) *consobrinus*, *S. u.* (consobrinus) *cowlesi*, *S. u.* (consobrinus) *garmani*, and *S. u.* (consobrinus) *tedbrowni*; and III. *S. u.* (exerge *tristichus*) *tristichus*, *S. u.* (tristichus) *elongatus*, and *S. u.* (tristichus) *erythrocheilus*. The English names Fence Lizard, Prairie Lizard, and Plateau Lizard have been used for the three groups (e.g., Conant, 1958, A field guide to reptiles and amphibians of the United States and Canada east of the 100th meridian, Houghton Mifflin Co.; 1975, A field guide to reptiles and amphibians of eastern and central North America, Houghton Mifflin Co.; Collins, 1990, SSAR Herpetol. Circ. 19; and 1997, SSAR Herpetol. Circ. 25). Wiens and Reeder (1997, Herpetol. Monog. 11: 1–101) presented evidence that some of the subspecies of *S. undulatus* are more closely related to different species (e.g., *S. occidentalis*, *S. virgatus*, *S. woodi*) than to other *S. undulatus*. They concluded that the taxonomy of *S. undulatus* is in desperate need of revision. A study in progress by Leaché (1999, ASIH-HL-SSAR abstract) is likely to have
implications for the taxonomy of *Sceloporus undulatus* and its currently recognized subspecies.

- **S. u. consobrinus** Baird and Girard, 1853—Southern Prairie Lizard
- **S. u. cowlesi** Lowe and Norris, 1956—White Sands Prairie Lizard
- **S. u. elongatus** Stejneger, 1890—Northern Plateau Lizard
- **S. u. erythrocheilus** Maslin, 1956—Red-lipped Plateau Lizard
- **S. u. garmani** Bouleneger, 1882—Northern Prairie Lizard
- **S. u. hyacinthinus** (Green, 1818)—Northern Fence Lizard
- **S. u. speari** Smith, Chizar, Lemos–Espinal and Bell, 1995—Cabeza de Vaca Prairie Lizard
- **S. u. tedbrowni** Smith, Bell, Applegarth and Chiszar, 1992—Mescalero Prairie Lizard
- **S. u. tristichus** Cope, 1875—Southern Plateau Lizard
- **S. u. undulatus** (Bosc and Daudin in Sonnini and Latreille, 1801)—Southern Fence Lizard
- **S. variabilis** Wiegmann, 1834—Rose-bellied Lizard

Based on patterns of electrophoretically detectable genetic variation, Mendoza-Quijano et al. (1998, Copeia 1998: 354–366) treated *Sceloporus marmoratus* as a species separate from *S. variabilis*; however, their sample of *S. v. marmoratus* was from a single locality separated by more than 500 km from the closest sample of *S. v. variabilis*. More extensive sampling of these taxa from intermediate localities is needed to determine if they constitute separate lineages.

- **S. virgatus** Smith, 1938—Striped Plateau Lizard
- **S. woodi** Stejneger, 1918—Florida Scrub Lizard

**Scincella** Mittleman, 1950—GROUND SKINKS


- **S. lateralis** (Say, 1823)—Little Brown Skink

**Sphaerodactylus** Wagler, 1830—DWARF GECKOS


- **S. argus** Gosse, 1850—Ocellated Gecko (Introduced)
  - **S. a. argus** Gosse, 1850—Common Ocellated Gecko (Introduced)


- **S. elegans** MacLeay, 1834—Ashy Gecko (Introduced)
  - **S. e. elegans** MacLeay, 1834—Cuban Ashy Gecko (Introduced)

*Sphaerodactylus elegans elegans* is established in Key West, Boca Chica Key, and Big Coppit Key, Florida (Wilson and Porras, 1983, Univ. Kansas Mus. Nat. Hist. Spec. Publ. 9: 1–89 and references therein); the subspecific identification was not reported by Wilson and Porras (op.cit.) but was given by Schwartz and Henderson (1988, Contrib. Biol. Geol.

**S. notatus** Baird, 1859 “1858”—Reef Gecko

*S. n. notatus* Baird, 1859—Florida Reef Gecko

**Tarentola** Gray, 1825—WALL GECKOS (Introduced)


*T. mauritanica* (Linnaeus, 1758)—Moorish Wall Gecko (Introduced)

*Tarentola mauritanica* is established in San Diego County, California (Mahrdt, 1998, Herpetol. Rev. 29: 52); the subspecific identification for this population apparently has not been reported.

**Uma** Baird, 1859 “1858”—FRINGE-TOED LIZARDS


*U. inornata* Cope, 1895—Coachella Valley Fringe-toed Lizard

*U. notata* Baird, 1859 “1858”—Sonoran Desert Fringe-toed Lizard

Studies in progress by Wilgenbusch and de Queiroz (2000, Syst. Biol. 49: 592-612), Trepanier and Murphy (submitted), and Hollingsworth et al. (submitted) all find that *Uma notata* is paraphyletic, with *U. n. notata* more closely related to *U. inornata* than to *U. n. rufopunctata*.

*U. n. notata* Baird, 1859 “1858”—Colorado Desert Fringe-toed Lizard

*U. n. rufopunctata* Cope, 1895—Yuman Desert Fringe-toed Lizard

**U. scoparia** Cope, 1894—Mojave Fringe-toed Lizard

**Urosaurus** Hallowell, 1854—TREE and BRUSH LIZARDS


*U. graciosus* Hallowell, 1854—Long-tailed Brush Lizard

Wiens (1993, Herpetologica 49: 399–420) did not recognize subspecies of *Urosaurus graciosus*; however, that decision seems to have been based on a philosophical opposition to the recognition of subspecies rather than an analysis indicating that the taxa in question do not represent even partially separated lineages. Nevertheless, Vitt and Dickson (1988, Cat. Am. Amph. Rept. 448) called into question the diagnostic characters used to separate these taxa, implying that there is little evidence for the existence of even partially separated lineages.

*U. g. graciosus* Hallowell, 1854—Western Long-tailed Brush Lizard

*U. g. shannoni* Lowe, 1955—Arizona Long-tailed Brush Lizard

**U. microscutatus** (Van Denburgh, 1894)—Small-scaled Lizards

**U. ornatus** (Baird and Girard, 1852)—Ornate Tree Lizard

Wiens (1993, Herpetologica 49: 399–420) did not recognize subspecies of *Urosaurus ornatus*; however, that decision seems to have been based on a philosophical opposition to the recognition of subspecies rather than an analysis indicating that the taxa in question do not represent even partially separated lineages.
U. o. levis (Stejneger, 1890)—Smooth Tree Lizard
U. o. ornatus (Baird and Girard, 1852)—Texas Tree Lizard
U. o. schmidtii (Mittleman, 1940)—Big Bend Tree Lizard
U. o. schottii (Baird, 1859 “1858”)—Schott’s Tree Lizard
U. o. symmetricus (Baird, 1859 “1858”)—Colorado River Tree Lizard
U. o. wrighti (Schmidt, 1921)—Cliff Tree Lizard

Uta Baird and Girard, 1852—SIDE-BLOTCHED LIZARDS

U. stansburiana Baird and Girard, 1852—Common Side-blotched Lizard
   U. s. elegans Yarrow, 1882—Western Side-blotched Lizard
   U. s. nevadensis Ruthven, 1913—Nevada Side-blotched Lizard
   U. s. stansburiana Baird and Girard, 1852—Northern Side-blotched Lizard
   U. s. stejnegeri Schmidt, 1921—Eastern Side-blotched Lizard

U. s. uniformis Pack and Tanner, 1970—Plateau Side-blotched Lizard

Xantusia Baird, 1859 “1858”—NIGHT LIZARDS

X. henshawi Stejneger, 1893—Henshaw’s Night Lizard
   X. h. gracilis Grismer and Galvan, 1986—Sandstone Night Lizard
   X. h. henshawi Stejneger, 1893—Granite Night Lizard
X. riversiana Cope, 1883—Island Night Lizard
   X. r. reticulata Smith, 1946—San Clemente Night Lizard
   X. r. riversiana Cope, 1883—San Nicolas Night Lizard
X. vigilis Baird, 1859 “1858”—Desert Night Lizard
   X. v. arizonae Klauber, 1931—Arizona Night Lizard
   X. v. sierrae Bezy, 1967—Sierra Night Lizard
   X. v. utahensis Tanner, 1957—Utah Night Lizard
   X. v. vigilis Baird, 1859 “1858”—Yucca Night Lizard
Agkistrodon Palisot de Beauvois, 1799—AMERICAN MOCCASINS

*A. contortrix* (Linnaeus, 1766)—Copperhead

The evolutionary status of the nominal subspecies is unclear and requires work to determine whether they are historical entities.

- *A. c. contortrix* (Linnaeus, 1766)—Southern Copperhead
- *A. c. laticinctus* Gloyd and Conant, 1934—Broad-banded Copperhead
- *A. c. mokasen* Palisot de Beauvois, 1799—Northern Copperhead
- *A. c. phaeogaster* Gloyd, 1969—Osage Copperhead
- *A. c. pictigaster* Gloyd and Conant, 1943—Trans-Pecos Copperhead

*A. piscivorus* (Lacepède, 1789)—Cottonmouth

A detailed study of geographic variation in this species should provide interesting marks of history, particularly because the Mobile Bay Embayment, a critical biogeographic barrier, seems to be involved in morphological differentiation.

- *A. p. conanti* Gloyd, 1969—Florida Cottonmouth
- *A. p. leucostoma* (Troost, 1836)—Western Cottonmouth
- *A. p. piscivorus* (Lacepède, 1789)—Eastern Cottonmouth

Arizona Kennicott, 1859—GLOSSY SNAKES

Collins (1991, Herpetol. Rev. 22: 42–43) elevated *Arizona elegans occidentalis* to specific status to include all populations in the Sonoran and Mohave Desert region. This arrangement was followed by Liner (1994, SSAR Herpetol. Circ. 23) and Collins (1997, SSAR Herpetol. Circ. 25). Collins (1991, Herpetol. Rev. 22: 42–43) was the first use of this binomial. Because no discussion of the taxonomic diagnosis was presented (although Dixon [1959, Southwest. Nat. 4: 20–29] found tail length differences between eastern and western groups), we retain *occidentalis* as a nominal subspecies, even though we suspect that detailed study of geographic variation might support Collins’ assertion.

*A. elegans* Kennicott, 1859—Glossy Snake


- *A. e. arenicola* Dixon, 1960—Texas Glossy Snake
- *A. e. candida* Klauber, 1946—Mojave Glossy Snake
- *A. e. eburnata* Klauber, 1946—Desert Glossy Snake
- *A. e. elegans* Kennicott, 1859—Kansas Glossy Snake
- *A. e. noctivaga* Klauber, 1946—Arizona Glossy Snake
- *A. e. occidentalis* Blanchard, 1924—California Glossy Snake
- *A. e. philipi* Klauber, 1946—Painted Desert Glossy Snake

Bogertophis Dowling and Price, 1988—DEsert RAtSNakes

Schulz (1996, A Monograph of the Colubrid Snakes of the Genus *Elaphe* Fitzinger, Koeltz Scientific Books) applied the generic name *Elaphe* to this genus due to his opinion that the genus *Elaphe* is in need of an overall revision, but not because Schulz disagreed with Dowling and Price (1988, The Snake, 20: 52–63). We concur that *Elaphe* is in need of systematic revision globally, but retain *Bogertophis* because it is a demonstrably monophyletic group (Dowling, 1957, Occ. Papers Mus. Zool. Univ. Michigan 583: 1–22) which
Elaphe (sensu lato) definitely is not. Further, Keogh (1996, Herpetologica 52: 406–416) found Bogertophis to be more closely related to other Lampropeltini than to other Elaphe.

**B. rosaliae** (Mocquard, 1899)—Baja California Ratsnake

**B. subocularis** (Brown, 1901)—Trans-Pecos Ratsnake

**B. s. subocularis** (Brown, 1901)—Trans-Pecos Ratsnake

**Carphophis** Gervais, 1843—WORMSNakes

**C. amoenus** (Say, 1825)—Eastern Wormsnake

**C. a. amoenus** (Say, 1825)—Eastern Wormsnake

**C. a. helenae** (Kennicott, 1859)—Midwestern Wormsnake

**C. vermis** (Kennicott, 1859)—Western Wormsnake

Clark (1968, Herpetologica 24: 104–112) recommended elevation of vermis to species status on the basis of allopatry and morphology, but Rossman (1973, J. Herpetol. 7: 140–141) presented evidence in the form of intergrade populations for the conspecificity of amoenus and vermis. Collins (1991, Herpetol. Rev. 22: 42–43) considered C. vermis to be distinct from C. amoenus, the implication being that the intermediate (and isolated) population discussed by Rossman was either considered the most plesiomorphic members of C. vermis, or an unnamed taxon.

**Cemophora** Cope, 1860—SCARLETSNAKES

The existence of C. c. coccinea on either side of the Mississippi embayment, likely with no mutual gene flow, suggests to us that a detailed study of geographic variation would produce considerable taxonomic change.

**C. coccinea** (Blumenbach, 1788)—Scarletsnake

**C. c. copei** Jan, 1863—Northern Scarletsnake

**C. c. coccinea** (Blumenbach, 1788)—Florida Scarletsnake

**C. c. lineri** Williams, Brown, and Wilson, 1966—Texas Scarletsnake

**Charina** (Gray 1849)—Rubber Boas

Kluge (1993, Zool. J. Linnaean Soc. 107: 293–351) placed Lichanura in the synonymy of Charina because they formed monotypic sister taxa. Given that Kluge did not include fossil erycine taxa in his study, his conclusion of monotypic sister taxa may be premature. In addition, recent phylogeographic studies suggest that the two genera may not be monospecific (see Rodriguez-Robles et al. 2000, ASIH-HL-SSAR abstracts for Charina; Wood, 2000 ASIH-HL-SSAR abstracts for Lichanura), which preclude combining. As such, we continue to recognize both Charina and Lichanura.

**C. bottae** (Blainville, 1835)—Rubber Boa

**C. b. bottae** (Blainville, 1835)—Northern Rubber Boa

**C. b. umbratica** Klauber, 1943—Southern Rubber Boa

**Chilomeniscus** Cope, 1860—SANDSnakes

**C. cinctus** Cope, 1861—Banded Sandsnake

Wong (Herpetologica, in press) synonymized C. cinctus with C. stramineus Cope 1860, in which case the standard English name “Variable Sandsnake” will be recommended.
**Chionactis** Cope, 1860—SHOVEL-NOSED SNAKES

- **C. occipitalis** (Hallowell, 1854)—Western Shovel-nosed Snake
- **C. o. annulata** (Baird, 1859)—Colorado Desert Shovel-nosed Snake

There is some question as to the validity of the name *Chionactis saxatilis* (Funk, 1967, Southwest. Nat. 12: 180), the Gila Mountains Shovel-nosed Snake; generally considered to be a synonym of *C. o. annulata* (see John Cross, 1978, Ph.D. dissertation, Univ. Arizona).

- **C. o. klauberi** (Stickel, 1941)—Tucson Shovel-nosed Snake
- **C. o. occipitalis** (Hallowell, 1854)—Mojave Shovel-nosed Snake
- **C. o. talpina** Klauber, 1951—Nevada Shovel-nosed Snake

- **C. palarostris** (Klauber, 1937)—Sonoran Shovel-nosed Snake

*Clonophis* Cope, 1889—KIRTLAND’S SNAKES

- **C. kirtlandii** (Kennicott, 1856)—Kirtland’s Snake


**Coluber** Linnaeus, 1758—NORTH AMERICAN RACERS

The genus *Coluber*, as currently recognized, is found in the Old World as well as the New World. Anderson (1996, MS thesis, Southeastern Louisiana Univ.) demonstrated that the genus is not monophyletic. Because the type of *Coluber* is *constrictor*, we use the English name North American Racers in anticipation of verification of the monophyly of New World taxa.

- **C. constrictor** Linnaeus, 1758—Eastern Racer

Reviewed by Wilson (1978, Cat. Am. Amph. Rept. 218). Fitch et al. (1981, Trans. Kansas Acad. Sci. 84: 196–203) argued for the elevation of *C. c. mormon*. This recommendation was rejected by Greene (1983, J. Herpetol. 18: 210–211). Greene’s rejection of *C. mormon* was supported by Corn and Bury (1986, Herpetologica 42: 258–264) who showed that a broad zone of intergradation exists across Colorado and Utah. Collins (1991, Herpetol. Rev. 22: 42–43) re-validated *mormon* to specific status, although allopatry was not suitably demonstrated. Anderson (1996, MS thesis, Southeastern Louisiana Univ.) argued that based on allozyme data *C. c. mormon* cannot be differentiated but that *C. c. paludicola* and *C. c. oaxaca* were diagnosable and should be elevated to species status. We retain *C. c. mormon* and await action on *oaxaca* and *paludicola* until the data are published.

- **C. c. anthicus** (Cope, 1862)—Buttermilk Racer
- **C. c. constrictor** Linnaeus, 1758—Northern Black Racer
- **C. c. etheridgei** Wilson, 1970—Tan Racer
- **C. c. flaviventris** Say, 1823—Eastern Yellow-bellied Racer
- **C. c. foxii** (Baird and Girard, 1853)—Blue Racer
- **C. c. helvigularis** Auffenberg, 1955—Brown-chinned Racer
- **C. c. latrunculus** Wilson, 1970—Black-masked Racer
- **C. c. mormon** Baird and Girard, 1852—Western Yellow-bellied Racer
- **C. c. oaxaca** (Jan, 1863)—Mexican Racer
- **C. c. paludicola** Auffenberg and Babbitt, 1953—Everglades Racer
- **C. c. priapus** Dunn and Wood, 1939—Southern Black Racer
**Coniophanes**  Hallowell, 1860—BLACK-STRIPED SNAKES

*C. imperialis* (Baird and Girard, 1859)—Regal Black-striped Snake

*C. i. imperialis* (Baird and Girard, 1859)—Tamaulipan Black-striped Snake

**Contia**  Baird and Girard, 1853—SHARP-TAILED SNAKES

*C. tenuis* (Baird and Girard, 1852)—Sharp-tailed Snake


**Crotalus**  Linnaeus, 1758—RATTLESNAKES


*C. adamanteus*  Palisot de Beauvois, 1799—Eastern Diamond-backed Rattlesnake


*C. atrox*  Baird and Girard, 1853—Western Diamond-backed Rattlesnake

*C. cerastes*  Hallowell, 1854—Sidewinder

The status of the subspecies is dubious, most likely being artifacts of continuous variation, although the Colorado River as a barrier to gene flow should not be underestimated.

* C. c. cerastes*  Hallowell, 1854—Mojave Desert Sidewinder

* C. c. cercobombus*  Savage and Cliff, 1953—Sonoran Sidewinder

* C. c. laterorepens*  Klauber, 1944—Colorado Desert Sidewinder

* C. exsul*  Garman, 1883—Red Diamond Rattlesnake

Grismer et al. (1994, *Bull. So. California Acad. Sci.* 93: 45–80) synonymized *Crotalus ruber* with *C. exsul*. However, there is a petition to conserve the name *ruber*. Until the formal petition is acted upon, we follow Grismer et al (op.cit.).

* C. e. exsul*  Garman, 1883—Peninsular Red Diamond Rattlesnake

* C. horridus*  Linnaeus, 1758—Timber Rattlesnake


* C. lepidus*  (Kennicott, 1861)—Rock Rattlesnake

* C. l. klauberi*  Gloyd, 1936—Banded Rock Rattlesnake

* C. l. lepidus*  (Kennicott, 1861)—Mottled Rock Rattlesnake

* C. mitchelli*  (Cope, 1861)—Speckled Rattlesnake


* C. m. pyrrhus*  (Cope, 1866)—Southwestern Speckled Rattlesnake

* C. m. stephensi*  Klauber, 1930—Panamint Rattlesnake

The relationship of this nominal race to *Crotalus viridis* in the Southern Great Basin area needs investigation.
C. molossus Baird and Girard, 1853—Black-tailed Rattlesnake

C. m. molossus Baird and Girard, 1853—Northern Black-tailed Rattlesnake

C. pricei Van Denburgh, 1895—Twin-spotted Rattlesnake

C. p. pricei Van Denburgh, 1895—Western Twin-spotted Rattlesnake

C. scutulatus (Kennicott, 1861)—Mojave Rattlesnake

C. s. scutulatus (Kennicott, 1861)—Mojave Green Rattlesnake

C. tigris Kennicott, 1859—Tiger Rattlesnake

C. viridis (Rafinesque, 1818)—Western Rattlesnake
C. v. abyssus Klauber, 1930—Grand Canyon Rattlesnake
C. v. cerberus (Coues, 1875)—Arizona Black Rattlesnake
C. v. concolor Woodbury, 1929—Midget Faded Rattlesnake
C. v. helleri Meek, 1905—Southern Pacific Rattlesnake
C. v. lutosus Klauber, 1930—Great Basin Rattlesnake
C. v. nuntius Klauber, 1935—Hopi Rattlesnake
C. v. oreganus Holbrook, 1840—Northern Pacific Rattlesnake
C. v. viridis (Rafinesque, 1818)—Prairie Rattlesnake

C. willardi Meek, 1905—Ridge-nosed Rattlesnake
C. w. obscurus Harris and Simmons, 1976—New Mexico Ridge-nosed Rattlesnake
C. w. willardi Meek, 1905—Arizona Ridge-nosed Rattlesnake

Diadophis Baird and Girard, 1853—RING-NECKED SNAKES

D. punctatus (Linnaeus, 1766)—Ring-necked Snake
Evidence to synonymize the various races into a single species has been poorly presented, although our arrangement follows current wisdom here. In particular, the sympatry of *Diadophis punctatus regalis* and *D. p. arnyi* suggests that more than one lineage exists (Gehlbach, 1974, Herpetologica 30: 140–148). Pinou et al. (1995, J. Herpetol. 29: 105–110) presented immunological distance data from serum albumin that indicated the presence of genetic divergence and perhaps species level differentiation between *edwardsii* and the other subspecies, except *punctatus*. These data appear to support the conclusion reached by Blanchard (1942, Bull. Chicago Acad. Sci. 7: 1–144) over fifty years ago that *Diadophis* is not monotypic in the United States. Although such differentiation probably exists, elevation of taxa is premature in the absence of a character-based phylogeny. An ongoing molecular genetics project has found the subspecies in California (*amabilis, modestus, occidentalis, pulchellus, similis, and vandenburghii*) to be nearly indistinguishable, and they probably do not represent unique evolutionary lineages (Chris Feldman, pers. comm.).

D. p. acricus Paulson, 1966—Key Ring-necked Snake
D. p. amabilis Baird and Girard, 1853—Pacific Ring-necked Snake
D. p. arnyi Kennicott, 1859—Prairie Ring-necked Snake
D. p. edwardsii (Merrem, 1820)—Northern Ring-necked Snake
D. p. modestus Bocourt, 1866—San Bernardino Ring-necked Snake
D. p. occidentalis Blanchard, 1923—Northwestern Ring-necked Snake
D. p. pulchellus Baird and Girard, 1853—Coral-bellied Ring-necked Snake
D. p. punctatus (Linnaeus, 1766)—Southern Ring-necked Snake
D. p. regalis Baird and Girard, 1853—Regal Ring-necked Snake
D. p. similis Blanchard, 1923—San Diego Ring-necked Snake
D. p. stictogenys Cope, 1860—Mississippi Ring-necked Snake
D. p. vandenburghii Blanchard, 1923—Monterey Ring-necked Snake

Drymarchon Fitzinger, 1843—INDIGO SNAKES

D. corais (Boie, 1827)—Western Indigo Snake
D. c. erebennus (Cope, 1860)—Texas Indigo Snake

D. couperi (Holbrook, 1842)—Eastern Indigo Snake
Collins (1991, Herpetol. Rev. 22: 42–43) elevated this lineage to specific status based on allopatry and diagnosibility. Whether the diagnosibility of this taxon holds up against rigorous scrutiny across the distribution of Drymarchon is open to testing.

Drymobius Fitzinger, 1843—NEOTROPICAL RACERS

D. margaritiferus (Schlegel, 1837)—Speckled Racer
D. m. margaritiferus (Schlegel, 1837)—Northern Speckled Racer

Elaphe Fitzinger, 1833—RATSNakes

See comments on Bogertophis and Senticolis.

E. bairdi (Yarrow, 1880)—Baird’s Ratsnake

E. gloydi Conant, 1940—Eastern Foxsnake
Collins (1991, Herpetol. Rev. 22: 42–43) elevated gloydi to specific status due its geographic disjunction from vulpina and the characters noted by Conant (1940, Herpetologica 2: 2). Harding (1997, Amphibians and Reptiles of the Great Lakes Region, Univ. Michigan Press) followed Collins (op. cit.), with additional justification that the two taxa occupy very different ecological niches. Additional data are needed to test the hypothesis of divergence between these populations, but in the meantime we follow Collins (op. cit.) and Harding (op. cit.).

E. guttata (Linnaeus, 1766)—Cornsnake
E. g. emoryi (Baird and Girard, 1853)—Great Plains Ratsnake
Vaughan et al. (1996, Texas J. Sci. 48: 175–190) considered E. emoryi and E. guttata conspecific, although their data indicate distributional, morphological, and ecological allopatry between the two, with the possible exception of two specimens from the hiatus.
E. g. guttata (Linnaeus, 1766)—Cornsnake
E. g. meahllmorum Smith, Chiszar, Staley, and Tepedelen, 1994—Southwestern Ratsnake

E. obsoleta (Say, 1823)—Eastern Ratsnake
Frank Burbrink (in press) shows that Elaphe obsoleta comprises three distinct lineages (3 species proposed by Burbrink) that do not correspond with currently recognized subspecies.
E. o. lindheimeri (Baird and Girard, 1853)—Texas Ratsnake  
E. o. obsoleta (Say, 1823)—Black Ratsnake  
E. o. quadrivittata (Holbrook, 1836)—Yellow Ratsnake  
E. o. rossalleni Neill, 1949—Everglades Ratsnake  
E. o. spiloides (Duméril, Bibron, and Duméril, 1854)—Gray Ratsnake  
E. vulpina (Baird and Girard, 1853)—Western Foxsnake  


Farancia Gray, 1842—MUDSNakes  
F. abacura (Holbrook, 1836)—Red-bellied Mudsnake  
F. a. abacura (Holbrook, 1836)—Eastern Mudsnake  
F. a. reinwardtii (Schlegel, 1837)—Western Mudsnake  

F. erytrogramma (Palisot de Beauvois, 1801)—Rainbow Snake  
F. e. erytrogramma (Palisot de Beauvois, 1801)—Common Rainbow Snake  
F. e. seminola Neill, 1964—Southern Florida Rainbow Snake  

Ficimia Gray, 1849—EASTERN HOOK-NOSED SNAKES  
The previous Standard English names for Ficimia and Gyalopion made little distributional sense. All are distributed in Mexico, but Ficimia had the moniker “Mexican” whereas Gyalopion had the name “Plateau” yet is clearly not confined to any plateau. Given that Ficimia has the easternmost distribution, we call it “Eastern” and call Gyalopion “Western.”  
F. streckeri Taylor, 1931—Tamaulipan Hook-nosed Snake  

Gyalopion Cope, 1861—WESTERN HOOK-NOSED SNAKES  
G. canum Cope, 1861—Chihuahuan Hook-nosed Snake  
G. quadrangulare ( Günther, 1893)—Thornscrub Hook-nosed Snake  

Heterodon Latreille, 1801—NORTH AMERICAN HOG-NOSED SNAKES  
H. nasicus Baird and Girard, 1852—Western Hog-nosed Snake  
H. n. gloydi Edgren, 1952—Dusty Hog-nosed Snake  
H. n. kennerlyi Kennicott, 1860—Mexican Hog-nosed Snake  
H. n. nasicus Baird and Girard, 1852—Plains Hog-nosed Snake  
H. platirhinos Latreille, 1801—Eastern Hog-nosed Snake  
H. simus (Linnaeus, 1766)—Southern Hog-nosed Snake  
Hypsiglena Cope, 1860—FANGLESS NIGHTSNAKES
Taxonomy of *Hypsiglena* has received some critical review since Tanner’s revision of the genus (1945, Great Basin Nat. 5: 25–92). Dixon (1965, Southwest. Nat. 10: 125–131) and Dixon and Dean (1986, Southwest. Nat. 31: 307–318) studied a morphological contact zone between northern and southern taxa in Sinaloa, finding that it comprised a narrow zone of hybridization with some taxon sympatry. Although they (Dixon and Dean, op. cit.) were hesitant to recommend species-level status for the northern populations (which Dixon originally did in his 1965 paper), we feel that the data therein recommend such a conclusion. Dixon (pers. comm.) agrees, although he would like to obtain molecular genetic data to test this hypothesis. Having said that, Hardy and McDiarmid (1969, Univ. Kansas Pub. Mus. Nat. Hist. 18: 39–252) examined specimens across the range of presumptive contact and elsewhere in western Mexico and concluded that no characters existed to separate *torquata* and *ochrorhynchus*, except maybe nuchal patterns, which they decided (p. 170) was “a case of pattern dimorphism in a single, otherwise uniform, species.” Also, if there are two species, with *torquata* the southern taxon, evidence is yet to show that *torquata* is not representative of any northern populations. Grismer et al. (1994, Bull. So. California Acad. Sci. 93: 45–80) dismissed Baja California subspecies of *Hypsiglena*, stating, without evidence, that the subspecies intergrade widely. We await a detailed analysis of variation in *Hypsiglena* before discarding subspecies.

*H. torquata* (Günther, 1860)—Nightsnake
*H. t. chlorophaea* Cope, 1860—Sonoran Nightsnake
Tanner (1985, Great Basin Nat. 45: 615–676) restricted the subspecies *ochrorhyncha* to the Cape Region of Baja California, resurrecting *chlorophaea* for the remaining mainland (including U.S.) populations.

*H. t. deserticola* Tanner, 1944—Desert Nightsnake
*H. t. janii* (Dugès, 1865)—Texas Nightsnake
*H. t. loreala* Tanner, 1944—Mesa Verde Nightsnake
*H. t. nuchalata* Tanner, 1943—California Nightsnake

Lampropeltis Fitzinger, 1843—KINGSNAKES
The specific and infraspecific variation within this genus remains uncertain. While Keogh (1996, Herpetologica 52: 406–416) could separate the tri-colored and the bi-colored taxa, he could not distinguish among *Lampropeltis pyromelana*, *L. triangulum*, and *L. zonata*.

*L. alterna* (Brown, 1901)—Gray-banded Kingsnake
Reviewed by Gehlbach (1967, Cat. Am. Amph. Rept. 55). Garstka (1982, Breviora 466: 1–35) was the last reviewer of the *mexicana* species group of *Lampropeltis*, but because of intergradation between the whole *mexicana* group and *L. pyromelana*, few workers have followed him. Hilken and Schlepper (1998, Salamandra 34: 97–124) provide data to support recognition of *L. alterna alterna* and *L. a. blairi*.

*L. a. alterna* (Brown, 1901)—Gray-banded Kingsnake
*L. a. blairi* Flury, 1950—Blair’s Kingsnake

*L. calligaster* (Harlan, 1827)—Yellow-bellied Kingsnake

*L. c. calligaster* (Harlan, 1827)—Prairie Kingsnake
*L. c. occipitolineata* Price, 1987—South Florida Mole Kingsnake
*L. c. rhombomaculata* (Holbrook, 1840)—Mole Kingsnake

*L. getula* (Linnaeus, 1766)—Common Kingsnake
Blaney (1977, Tulane Stud. Zool. Bot. 19: 47–103) formulated the subspecific taxonomy of *Lampropeltis getula*, noting three clusters of seemingly smoothly intergrading subspecies: (1) *californiae*; (2) *nigrita - splendida - holbrooki - niger*; (3) *getula - floridana*. Contact between 2 and 3 is extremely narrow and may constitute a species boundary. The

*L. g. californiae* (Blainville, 1835)—California Kingsnake
*L. g. floridana* Blanchard, 1919—Florida Kingsnake
*L. g. getula* (Linnaeus, 1766)—Eastern Kingsnake
*L. g. holbrooki* Stejneger, 1902—Speckled Kingsnake
*L. g. niger* (Yarrow, 1882)—Eastern Black Kingsnake
*L. g. nigrita* Zweifel and Norris, 1955—Western Black Kingsnake
*L. g. splendida* (Baird and Girard, 1853)—Desert Kingsnake

*L. pyromelana* (Cope, 1867)—Sonoran Mountain Kingsnake


*L. p. infralabialis* Tanner, 1953—Utah mountain Kingsnake
*L. p. pyromelana* (Cope, 1867)—Arizona Mountain Kingsnake

*L. triangulum* (Lacépède, 1788)—Milksnake

The extensive range and geographic variation documented in this species certainly warrants further analysis. Reviewed by Williams (1994, Cat. Am. Amph. Rept. 594).

*L. t. amaura* Cope, 1860—Louisiana Milksnake
*L. t. annulata* Kennicott, 1860—Mexican Milksnake
*L. t. celaenops* Stejneger, 1902—New Mexico Milksnake
*L. t. elapsoides* (Holbrook, 1838)—Scarlet Kingsnake
*L. t. gentilis* (Baird and Girard, 1853)—Central Plains Milksnake
*L. t. multistriata* Kennicott, 1860—Pale Milksnake
*L. t. syspila* (Cope, 1888)—Red Milksnake
*L. t. taylori* Tanner and Loomis, 1957—Utah Milksnake
*L. t. triangulum* (Lacépède, 1788)—Eastern Milksnake

*L. zonata* (Lockington in Blainville, 1876)—California Mountain Kingsnake

Reviewed by Zweifel (1974, Cat. Am. Amph. Rept. 174). Although Collins (1991, Herpetol. Rev. 22: 42–43) recognized some of the races as distinct species, the diagnosibility of these taxa is arguable. But, it has been suggested that a morphological study would easily diagnose the races as unique lineages (Darrel Frost, pers. comm.).

*L. z. multicincta* (Yarrow, 1882)—Sierra Mountain Kingsnake
*L. z. multifasciata* (Bocourt, 1886)—Coast Mountain Kingsnake
*L. z. parvirubra* Zweifel, 1952—San Bernardino Mountain Kingsnake
*L. z. pulchra* Zweifel, 1952—San Diego Mountain Kingsnake
*L. z. zonata* (Lockington in Blainville, 1876)—St. Helena Mountain Kingsnake
**Leptodeira** Fitzinger, 1843—**CAT-EYED SNAKES**

* L. septentrionalis (Kennicott, 1859)—Cat-eyed Snake
  * L. s. septentrionalis (Kennicott, 1859)—Northern Cat-eyed Snake

**Leptotyphlops** Fitzinger, 1843—**THREADSNAKES**

Because the morphology in *Leptotyphlops* is highly constrained, molecular analysis across the geographic range of the species might reveal the existence of cryptic species.

* L. dulcis (Baird and Girard, 1853)—Plains Threadsnake
  * L. d. dissectus (Cope, 1896)—New Mexico Threadsnake
  * L. d. dulcis (Baird and Girard, 1853)—Texas Threadsnake
  * L. humilis (Baird and Girard, 1853)—Western Threadsnake
    * L. h. cahuilae Klauber, 1931—Desert Threadsnake
    * L. h. humilis (Baird and Girard, 1853)—Southwestern Threadsnake
    * L. h. segregus Klauber, 1939—Trans-Pecos Threadsnake
    * L. h. utahensis Tanner, 1938—Utah Threadsnake

**Lichanura** Cope, 1861—**ROSY BOAS**

* L. trivirgata Cope, 1861—Rosy Boa
  * L. t. gracia Klauber, 1931—Desert Rosy Boa
  * L. t. roseofusca Cope, 1868—Coastal Rosy Boa
  * L. t. trivirgata Cope, 1861—Mexican Rosy Boa

**Masticophis** Baird and Girard, 1853—**WHIPSNAKES**

* M. bilineatus Jan, 1863—Sonoran Whipsnake
  * M. f. cingulum Lowe and Woodin, 1954—Sonoran Coachwhip
  * M. f. flagellum (Shaw, 1802)—Coachwhip
  * M. f. fuliginosus (Cope, 1895)—Baja California Coachwhip
  * M. f. lineatulus Smith, 1941—Lined Coachwhip

Grismer (1994, Herp. Nat. Hist. 2: 82) pointed out evidence that strongly recommended that *fuliginosus* be considered a separate species and his analysis is in the process doing it now (Lee Grismer, pers. comm.).
M. f. piceus (Cope, 1892)—Red Racer
M. f. ruddocki Brattstrom and Warren, 1953—San Joaquin Coachwhip
M. f. testaceus (Say, 1823)—Western Coachwhip

M. lateralis (Hallowell, 1853)—Striped Racer
  M. l. euryxanthus Riemer, 1954—Alameda Striped Racer
  M. l. lateralis (Hallowell, 1853)—California Striped Racer

M. schotti Baird and Girard, 1853—Schott’s Whipsnake
  M. s. ruthveni Ortenburger, 1923—Ruthven’s Whipsnake
  M. s. schotti Baird and Girard, 1853—Schott’s Whipsnake

M. taeniatus (Hallowell, 1852)—Striped Whipsnake
  M. t. ornatus Baird and Girard, 1853—Central Texas Whipsnake
  M. t. taeniatus (Hallowell, 1852)—Desert Striped Whipsnake

Micruroides Schmidt, 1928—SONORAN CORALSNAKES
  M. euryxanthus (Kennicott, 1860)—Sonoran Coralsnake
  M. e. euryxanthus (Kennicott, 1860)—Arizona Coralsnake

Micrurus Wagler, 1824—AMERICAN CORALSNAKES
  M. fulvius (Linnaeus, 1766)—Harlequin Coralsnake
  M. tener (Baird and Girard, 1853)—Texas Coralsnake
Collins (1991, Herpetol. Rev. 22: 42–43) elevated Micrurus tener to specific status. Roze (1996, Coral Snakes of the Americas, Kreiger Publishing) provided additional evidence that this taxon is a distinct species. Liner (1994, SSAR Herpetol. Circ. 23) and Collins (1997, SSAR Herpetol. Circ. 25) followed these recommendations. An ongoing study has failed to find any signs of recent intergradation around the geographical hiatus with M. fulvius (Jeff Boundy, pers. comm.).
    M. t. tener (Baird and Girard, 1853)—Texas Coralsnake

Nerodia Baird and Girard, 1853—NORTH AMERICAN WATERSNAKES
  N. clarkii (Baird and Girard, 1853)—Saltmarsh Snake
    N. c. clarkii (Baird and Girard, 1853)—Gulf Saltmarsh Snake
    N. c. compressicauda Kennicott, 1860—Mangrove Saltmarsh Snake
N. c. taeniata (Cope, 1895)—Atlantic Saltmarsh Snake

Dunson (1979, Florida Scientist 42: 102–112) synonymized *Nerodia c. taeniata* with *N. c. compressicauda*, concluding that it was a pattern variant of the latter. Lawson et al. (1991, Copeia 1991: 638–659) resurrected *N. c. taeniata* on the basis of allozyme data, although the genetic distances were minute.

*N. cyclopion* (Duméril, Bibron, and Duméril, 1854)—Mississippi Green Watersnake

*N. erythrogaster* (Forster, 1771)—Plain–bellied Watersnake

*N. f. confluens* (Blanchard, 1923)—Broad-banded Watersnake

*N. f. fasciata* (Linnaeus, 1766)—Banded Watersnake

*N. f. pictiventris* (Cope, 1895)—Florida Watersnake

N. floridana (Goff, 1936)—Florida Green Watersnake


*N. harteri* (Trapido, 1941)—Brazos River Watersnake

Reviewed by Mecham (1983, Cat. Am. Amph. Rept. 330; includes *N. paucimaculata*).

*N. paucimaculata* (Tinkle and Conant, 1961)—Concho Watersnake

Suggested to be separated from *harteri* by Rose and Selcer (1989, J. Herpetol. 23: 261–266) and supported by molecular data in Densmore et al. (1992, Herpetologica 48: 60–68).

*N. rhombifer* (Hallowell, 1852)—Diamond-backed Watersnake


*N. r. rhombifer* (Hallowell, 1852)—Northern Diamond-backed Watersnake

N. sipedon (Linnaeus, 1758)—Northern Watersnake


*N. s. insularum* (Conant and Clay, 1937)—Lake Erie Watersnake

*N. s. pleuralis* (Cope, 1892)—Midland Watersnake

*N. s. sipedon* (Linnaeus, 1758)—Common Watersnake

*N. s. williamengelsi* (Conant and Lazell, 1973)—Carolina Watersnake

*N. taxispilota* (Holbrook, 1838)—Brown Watersnake

**Opheodrys** Fitzinger, 1843—GREENSNAKES

*O. aestivalis* (Linnaeus, 1766)—Rough Greensnake


*O. a. aestivalis* (Linnaeus, 1766)—Northern Rough Greensnake

*O. a. carinatus* Grobman, 1984—Florida Rough Greensnake

*O. vernalis* (Harlan, 1827)—Smooth Greensnake

Cundall (1981, Copeia, 1981: 353–371) removed all the Asiatic species from *Opheodrys* and retained only *aestivalis* and *vernalis* in the genus. Given that *Liochlorophis* (Oldham and Smith, 1991, Bull. Maryland Herpetol. Soc. 27: 201–215) is the monotypic sister genus to the monotypic genus *Opheodrys*, recognition of the former taxon is unnecessary, and reduces the amount of information conveyed by the names. As such, we retain *vernalis* in *Opheodrys*. The several subspecies described by Grobman (1941, Misc. Pub. Mus. Zool. Univ. Michigan 50: 1–38; 1992, J. Herpetol. 26: 176–186) are based on character clines and have received little recognition.

**Oxybelis** Wagler, 1830—AMERICAN VINESNAKES

*O. aeneus* (Wagler, 1824)—Brown Vinesnake


**Pelamis** Daudin, 1803—YELLOW-BELLIED SEASNAKES

*P. platurus* (Linnaeus, 1766)—Yellow-bellied Seasnake


**Phyllorhynchus** Stejneger, 1890 LEAF-NOSED SNAKES

*P. browni* Stejneger, 1890—Saddled Leaf-nosed Snake

*P. decurtatus* (Cope, 1868)—Spotted Leaf-nosed Snake

We follow McDiarmid and Mc Cleary (1993, Cat. Am. Amph. Rept. 579), who argued that the four subspecies of *browni* and five subspecies of *decurtatus* not be recognized, pending a more detailed review of the genus in progress (J. Mendelson, pers. comm.).

**Pituophis** Holbrook, 1842—BULLSNAKES, GOPHERSNAKES, and PINESNAKES

Reichling (1995, J. Herpetol. 29: 186–198) clustered *Pituophis catenifer* subspecies and *P. melanoleucus* subspecies separately, and also was able to distinguish among the subspecies, in phenetic space. J. Matos (pers. comm.), using sequence data, supported Reichling’s arrangement, but found *P. ruthveni* and *P. c. sayi* to be sister taxa. Matos also found distinctive clades within western subspecies so taxonomic changes within this widespread taxon should be anticipated.

*P. catenifer* (Blainville, 1835)—Gophersnake

*P. c. affinis* (Hallowell, 1852)—Sonoran Gophersnake

*P. c. annectens* Baird and Girard, 1853—San Diego Gophersnake

*P. c. catenifer* (Blainville, 1835)—Pacific Gophersnake

*P. c. deserticola* Stejneger, 1893—Great Basin Gophersnake

*P. c. pumilus* Klauber, 1946—Santa Cruz Island Gophersnake

*P. c. sayi* (Schlegel, 1837)—Bullsnake
**P. melanoleucus** (Daudin, 1803)—Pinesnake
Reviewed by Sweet and Parker (1990, Cat. Am. Amph. Rept. 474; includes *P. catenifer, P. ruthveni*).

- *P. m. lodingi* Blanchard, 1924—Black Pinesnake
- *P. m. melanoleucus* (Daudin, 1803)—Northern Pinesnake
- *P. m. mugitus* Barbour, 1921—Florida Pinesnake

**P. ruthveni** Stull, 1929—Louisiana Pinesnake

**Ramphotyphlops** Fitzinger, 1843—AUSTRALASIAN BLINDSNAKES (Introduced)

**R. ruminus** (Daudin, 1803)—Brahminy Blindsnake (Introduced) (Unisexual)

**Regina** Baird and Girard, 1853—CRAYFISH SNAKES
Lawson (1987, J. Herpetol. 21:140–157) presented data that indicated this genus is not a natural group, i.e. not monophyletic, and requires further research to tease out the nature of the lineages involved.

- **R. alleni** (Garman, 1874)—Striped Crayfish Snake
- **R. grahamii** Baird and Girard, 1853—Graham’s Crayfish Snake
- **R. rigid** (Say, 1825)—Glossy Crayfish Snake
  - *R. r. deltae* (Huheey, 1959)—Delta Crayfish Snake
  - *R. r. rigid* (Say, 1825)—Glossy Crayfish Snake
- **R. septemvittata** (Say, 1825)—Queen Snake

**Rhadinaea** Cope, 1863—LITTERSNAKES

- **R. flavilata** (Cope, 1871)—Pine Woods Littersnake

**Rhinocheilus** Baird and Girard, 1853—LONG-NOSED SNAKES

- **R. lecontei** Baird and Girard, 1853—Long-nosed Snake
  - *R. l. lecontei* Baird and Girard, 1853—Western Long-nosed Snake
  - *R. l. tessellatus* Garman, 1883—Texas Long-nosed Snake

**Salvadora** Baird and Girard, 1853—PATCH-NOSED SNAKES

- **S. grahamiae** Baird and Girard, 1853—Eastern Patch-nosed Snake
  - *S. g. grahamiae* Baird and Girard, 1853—Mountain Patch-nosed Snake
  - *S. g. lineata* Schmidt, 1940—Texas Patch-nosed Snake
- **S. hexalepis** (Cope, 1866)—Western Patch-nosed Snake
  - *S. h. deserticola* Schmidt, 1940—Big Bend Patch-nosed Snake

Recognition of *deserticola* as a species was done without explanation by Bogert and Degenhardt (1961, Am. Mus. Novit. 2064: 13). Bogert (1985, Snake Syst. Newsl. Nov. no. 3) explained that the usage was based on characters discovered previously (Bogert, 1945, Am. Mus. Novit. 1285: 1–14) and on the absence of any intergrades. Although Bogert may be correct, we await a study to demonstrate it and retain *deserticola* as a subspecieis of *hexalepis*. 
SSAR HERPETOLOGICAL CIRCULAR 29

\[ S. \text{ h. hexalepis} \ (\text{Cope, 1866}) — \text{Desert Patch-nosed Snake}\]
\[ S. \text{ h. mojavensis} \ (\text{Bogert, 1945}) — \text{Mojave Patch-nosed Snake}\]
\[ S. \text{ h. virgultea} \ (\text{Bogert, 1935}) — \text{Coast Patch-nosed Snake}\]

**Semardinata** Cope, 1895 — **BLACK SWAMPSNAKES**

\[ S. \text{ pygaea} \ (\text{Cope, 1871}) — \text{Black Swampsnake}\]
\[ S. \text{ p. cyclas} \ (\text{Dowling, 1950}) — \text{Southern Florida Swampsnake}\]
\[ S. \text{ p. paludis} \ (\text{Dowling, 1950}) — \text{Carolina Swampsnake}\]
\[ S. \text{ p. pygaea} \ (\text{Cope, 1871}) — \text{Northern Florida Swampsnake}\]

**Senticolis** Dowling and Fries, 1987 — **GREEN RATSNAKES**

\[ S. \text{ triaspis} \ (\text{Cope, 1866}) — \text{Green Ratsnake}\]
\[ S. \text{ t. intermedia} \ (\text{Boettger, 1883}) — \text{Northern Green Ratsnake}\]

**Sistrurus** Garman, 1883 — **PYGMY RATTLESNAKES**
See annotation under \textit{Crotalus}.

\[ S. \text{ catenatus} \ (\text{Rafinesque, 1818}) — \text{Massasauga}\]

\[ S. \text{ c. catenatus} \ (\text{Rafinesque, 1818}) — \text{Eastern Massasauga}\]
\[ S. \text{ c. edwardsii} \ (\text{Baird and Girard, 1853}) — \text{Desert Massasauga}\]
\[ S. \text{ c. tergeminus} \ (\text{Say, 1823}) — \text{Western Massasauga}\]

\[ S. \text{ miliarius} \ (\text{Linnaeus, 1766}) — \text{Pygmy Rattlesnake}\]

\[ S. \text{ m. barbouri} \ (\text{Gloyd, 1935}) — \text{Dusky Pygmy Rattlesnake}\]
Gloyd (1935, Occ. Papers Mus. Zool. Univ. Michigan 322: 1–7) found \textit{S. m. barbouri} distinct from the other two races by having the lateral spots in 3 series vs. 1–2 series for the other two.

\[ S. \text{ m. miliarius} \ (\text{Linnaeus, 1766}) — \text{Carolina Pygmy Rattlesnake}\]
\[ S. \text{ m. streckeri} \ (\text{Gloyd, 1935}) — \text{Western Pygmy Rattlesnake}\]

**Sonora** Baird and Girard, 1853 — **NORTH AMERICAN GROUNDSNAKES**

\[ S. \text{ semiannulata} \ (\text{Baird and Girard, 1853}) — \text{Groundsnake}\]
**Stilosoma** Brown, 1890—SHORT-TAILED SNAKES

Dowling and Maxson (1990, J. Zool. London 221: 77–85), using immunological distance data, found *Stilosoma* to fall within *Lampropeltis*. Keogh (1996, Herpetologica 52: 406–416), however, did not recover a paraphyletic *Lampropeltis* with respect to *Stilosoma*, but found *Stilosoma* as part of the probable sister group to *Lampropeltis*.

*S. extenuatum* Brown, 1890—Short-tailed Snake


**Storeria** Baird and Girard, 1853—NORTH AMERICAN BROWNSNAKES

*S. dekayi* (Holbrook, 1836)—DeKay’s Brownsnake


*S. d. dekayi* (Holbrook, 1836)—Northern Brownsnake

*S. d. limnetes* Anderson, 1961—Marsh Brownsnake

*S. d. texana* Trapido, 1944—Texas Brownsnake

*S. d. wrightorum* Trapido, 1944—Midland Brownsnake

*S. occipitomaculata* (Storer, 1839)—Red-bellied Snake

*S. o. obscura* Trapido, 1944—Florida Red-bellied Snake

*S. o. occipitomaculata* (Storer, 1839)—Northern Red-bellied Snake

No evidence of separate lineages has been found between the sympatric brown and grey color morphs (Grudzien and Owens, 1991, J. Herpetol. 25: 90–92).

*S. o. pahasapae* Smith, 1963—Black Hills Red-bellied Snake

*S. victa* Hay, 1892—Florida Brown Snake


**Tantilla** Baird and Girard, 1853—BLACK-HEADED SNAKES

*T. atriceps* ( Günther, 1895)—Mexican Black-headed Snake


*T. coronata* Baird and Girard, 1853—Southeastern Crowned Snake


*T. cucullata* Minton, 1956—Trans-Pecos Black-headed Snake


*T. gracilis* Baird and Girard, 1853—Flat-headed Snake

*T. hobartsmithi* Taylor, 1937—Smith’s Black-headed Snake


*T. nigriceps* Kennicott, 1860—Plains Black-headed Snake

*T. oolitica* Telford, 1966—Rim Rock Crowned Snake


*T. planiceps* (Blainville, 1835)—Western Black-headed Snake

**T. relicta** Telford, 1966—Florida Crowned Snake

**T. r. neilli** Telford, 1966—Central Florida Crowned Snake

**T. r. pamlica** Telford, 1966—Coastal Dunes Crowned Snake

**T. r. relicta** Telford, 1966—Peninsula Crowned Snake

**T. wilcoxi** Stejneger, 1902—Chihuahuan Black-headed Snake

**T. yaquia** Smith, 1942—Yaqui Black-headed Snake

**Thamnophis** Fitzinger, 1843—**NORTH AMERICAN GARTERSNAKES**

**T. atratus** (Kennicott, 1860)—Aquatic Gartersnake

**T. a. atratus** (Kennicott, 1860)—Santa Cruz Gartersnake

**T. a. hydrophilus** Fitch, 1936—Oregon Gartersnake

**T. a. zaxanthus** Boundy, 1999—Diablo Range Gartersnake

**T. brachystoma** (Cope, 1892)—Short-headed Gartersnake

**T. butleri** (Cope, 1889)—Butler’s Gartersnake

**T. couchii** (Kennicott, 1859)—Sierra Gartersnake

**T. cyrtopsis** (Kennicott, 1860)—Black-necked Gartersnake

**T. c. cyrtopsis** (Kennicott, 1860)—Western Black-necked Gartersnake

**T. c. ocellatus** (Cope, 1880)—Eastern Black-necked Gartersnake

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

**T. e. arizonae** Tanner and Lowe, 1989—Arizona Wandering Gartersnake

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

**T. e. terrestris** Fox, 1951—Coast Gartersnake

**T. e. vagrans** Baird and Girard, 1853—Intermountain Wandering Gartersnake

**T. e. vascotanneri** Tanner and Lowe 1989—Upper Basin Gartersnake

**T. eques** (Reuss, 1834)—Mexican Gartersnake

**T. e. megalops** (Kennicott, 1860)—Northern Mexican Gartersnake

**T. gigas** Fitch, 1940—Giant Gartersnake

**T. hammondii** (Kennicott, 1860)—Two-striped Gartersnake

The extralimital *T. digueti* was synonymized with *T. hammondii* by McGuire and Grismer (1993, Herpetologica 49: 354–365).
T. marcianus (Baird and Girard, 1853)—Checkered Gartersnake
  T. m. marcianus (Baird and Girard, 1853)—Marcy’s Checkered Gartersnake

T. ordinoides (Baird and Girard, 1852)—Northwestern Gartersnake

T. proximus (Say, 1823)—Western Ribbonsnake
  T. p. diabolicus Rossman, 1963—Arid Land Ribbonsnake
  T. p. orarius Rossman, 1963—Gulf Coast Ribbonsnake
  T. p. proximus (Say, 1823)—Orange-striped Ribbonsnake
  T. p. rubrilineatus Rossman, 1963—Red-striped Ribbonsnake

T. radix (Baird and Girard, 1853)—Plains Gartersnake

T. rufipunctatus (Cope, 1875)—Narrow-headed Gartersnake

T. sauritus (Linnaeus, 1766)—Eastern Ribbonsnake
  T. s. nitae Rossman, 1963—Blue-striped Ribbonsnake
  T. s. sackenii (Kennicott, 1859)—Peninsula Ribbonsnake
  T. s. sauritus (Linnaeus, 1766)—Common Ribbonsnake
  T. s. septentrionalis Rossman, 1963—Northern Ribbonsnake

T. sirtalis (Linnaeus, 1758)—Common Gartersnake
  T. s. annectens Brown, 1950—Texas Gartersnake
  T. s. concinnus (Hallowell, 1852)—Red-spotted Gartersnake
  T. s. dorsalis (Baird and Girard, 1853)—New Mexico Gartersnake
  T. s. fitchi Fox, 1951—Valley Gartersnake
  T. s. infernalis (Blainville, 1835)—San Francisco Gartersnake
Boundy and Rossman (1995, Copeia 1995: 236–240) found that the holotype of infernalis is a specimen of tetrataenia, and proposed replacement of the latter name with the older name infernalis, for San Francisco Gartersnake. They referred to concinnus the populations formerly referred to as infernalis on the basis of color pattern similarities. Barry et al. (1996, Herpetol. Rev. 27: 172–173) have petitioned the ICZN to suppress the changes proposed by Boundy and Rossman. We follow Boundy and Rossman until the ICZN decides.
  T. s. pallidulus Allen, 1899—Maritime Gartersnake
  T. s. parietalis (Say, 1823)—Red-sided Gartersnake
  T. s. pickeringii (Baird and Girard, 1853)—Puget Sound Gartersnake
  T. s. semifasciatus Cope, 1892—Chicago Gartersnake
  T. s. similis Rossman, 1965—Blue-striped Gartersnake
**T. s. sirtalis** (Linnaeus, 1758)—Eastern Gartersnake

**Trimorphodon** Cope, 1861—LYRESNAKES

**T. b. biscutatus** (Duméril, Bibron and Duméril, 1854)—Western Lyresnake

**T. b. lambda** Cope, 1886—Sonoran Lyresnake

**T. b. lyrophanes** (Cope, 1860)—California Lyresnake

**T. b. vilkinsonii** Cope, 1886—Texas Lyresnake

**Tropidoclonion** Cope, 1860—LINED SNAKES

**T. lineatum** (Hallowell, 1856)—Lined Snake
See comments under **Virginia**.

**Virginia** Baird and Girard, 1853—NORTH AMERICAN EARTHSNAKES

**V. striatula** (Linnaeus, 1766)—Rough Earthsnake

**V. valeriae** Baird and Girard, 1853—Smooth Earthsnake

**V. v. elegans** Kennicott, 1859—Western Smooth Earthsnake

**V. v. valeriae** Baird and Girard, 1853—Eastern Smooth Earthsnake

**V. v. pulchra** (Richmond, 1954)—Mountain Earthsnake
Lawson (1985, Ph.D. dissertation, Louisiana St. Univ.) argued for the possibility that **Virginia** is paraphyletic with respect to **Tropidoclonion** and suggested expanding the genus **Virginia** to include **Tropidoclonion lineatum**. Collins (1991, Herpetol. Rev. 22: 42–43) elevated **pulchra** to specific status. Because no supporting data, aside from allopatric distribution, was published in his list, we retain **V. valeriae pulchra**.

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**Crocodilia**—CROCODILIANS

**Alligator** Cuvier, 1807—ALLIGATORS

**A. mississippiensis** (Daudin, 1801)—American Alligator

**Caiman** Spix, 1825—CAIMANS

**C. crocodilus** (Linnaeus, 1758)—Common Caiman

**Crocodylus** Laurenti, 1768—CROCODILES

**C. acutus** (Cuvier, 1807)—American Crocodile
Apalone Rafinesque, 1832—NORTH AMERICAN SOFTSHELLS

The generic name Apalone Rafinesque was resurrected by Meylan (1987, Bull. Am. Mus. Nat. Hist. 186: 1–101) for the monophyletic group of softshell turtles consisting of Apalone ferox, A. mutica and A. spinifera which was identified through a phylogenetic analysis of all living softshells. Meylan’s revised taxonomy has been widely adopted (e.g., Iverson, 1992, A revised checklist with distribution maps of the turtles of the world, Privately printed; Conant and Collins, 1992, A field guide to reptiles and amphibians: Eastern and Central North America, Houghton Mifflin Co.; Collins, 1997, SSAR Herpetol. Circ. 25; Ernst and Barbour, 1989, Turtles of the World, Smithsonian Instit. Press). Authors who continue to use Trionyx for species of Apalone (e.g., Ernst et al., 1994, Turtles of the United States and Canada, Smithsonian Instit. Press; Plummer, 1997, Chelon. Conserv. Biol. 2: 514–520) cite Webb (1990, Cat. Am. Amph. Rept. 487) who considers that “total acceptance of [Meylan, op. cit.] classification is premature”. However, no alternative hypothesis of relationships for these species or alternative taxonomy has been offered. To our knowledge there is no evidence, published or unpublished, that Apalone is not monophyletic. In fact, sequence data from the cytochrome b gene, which so far fails to resolve trionychid relationships, strongly supports monophyly of Apalone (Engstrom et al. in prep.). It is true that Meylan’s (op. cit.) work suggests that the North American softshells (Apalone) should be assigned to the same Tribe as Trionyx triunguis, the type of the genus Trionyx. However, as pointed out in Meylan (1996, Herpetol. Rev. 27.41–42), the North American softshells are distinctive morphologically and biologically, and diverged from their closest relatives during the Cretaceous (Gardiner et al., 1995, Can. J. Earth Sci. 32: 631–643). The content of Apalone follows the work of Webb (1962, Univ. Kansas Publ. Mus. Nat. Hist. 13: 429–611). Reviewed by Webb (1990, [as Trionyx] Cat. Am. Amph. Rept. 487).

A. ferox (Schneider, 1783)—Florida Softshell


A. mutica (Lesueur, 1827)—Smooth Softshell


A. m. calvata (Webb, 1959)—Gulf Coast Smooth Softshell

A. m. mutica (Lesueur, 1827)—Midland Smooth Softshell

A. spinifera (Lesueur, 1827)—Spiny Softshell


A. s. aspera (Agassiz, 1857)—Gulf Coast Spiny Softshell

A. s. emoryi (Agassiz, 1857)—Texas Spiny Softshell

A. s. guadalupensis (Webb, 1962)—Guadalupe Spiny Softshell

A. s. hartwegi (Conant and Goin, 1948)—Western Spiny Softshell

A. s. pallida (Webb, 1962)—Pallid Spiny Softshell

A. s. spinifera (Lesueur, 1827)—Eastern Spiny Softshell

Caretta Rafinesque, 1814—LOGGERHEAD SEATURTLES

Reviewed by Dodd (1990, Cat. Am. Amph. Rept. 482). This comment applies to all the standard English names of the seaturtles listed herein. After much discussion, and with much chagrin to seaturtle biologists, we decided to include the name “seaturtle” in the standard English names. We felt this would clarify for the non–herpetologist what kind of beast a “loggerhead” or “hawksbill” is. This decision was also aided by conversations with workers associated with the soon to be finished federal names lists, in which “seaturtle” will also be used.
**C. caretta** (Linnaeus, 1758)—Loggerhead Seaturtle

**Chelonia** Brongniart, 1800—GREEN SEATURTLES

**C. mydas** (Linnaeus, 1758)—Green Seaturtle
The Black Turtle of the Pacific Ocean has been considered a separate species (*Chelonia agassizii*) by some authors (e.g., Pritchard and Trebbau, 1984, SSAR Contrib. Herpetol. 2: 1–403), a subspecies of *Chelonia mydas* by others (Kamezaki and Matsui, 1995, J. Herpetol. 29: 51–60), and synonymous with *Chelonia mydas* by others (e.g., Bowen et al., 1992, Evolution 46: 865–881). We follow Parham and Zug (1996, Marine Turtle NewsL. 72: 2–5) in not recognizing it taxonomically until more definitive work is done. Reviewed by Hirth (1980, Cat. Am. Amph. Rept. 249).

**Chelydra** Schweigger, 1812—SNAPPING TURTLES
Reviewed by Ernst et al. (1988, Cat. Am. Amph. Rept. 419).

**C. serpentina** (Linnaeus, 1758)—Snapping Turtle
This species has previously been called the Common Snapping Turtle (e.g., Collins, 1997, SSAR Herpetol. Circ. 25), but the adjective has been dropped because it might be misinterpreted as referring to the abundance of the species rather than to its being the typical, most widespread species of its genus. Reviewed by Gibbons et al. (1988, Cat. Am. Amph. Rept. 420).

**C. s. osceola** Stejneger, 1918—Florida Snapping Turtle
**C. s. serpentina** (Linnaeus, 1758)—Eastern Snapping Turtle

**Chrysemys** Gray, 1844—PAINTED TURTLES

**C. picta** (Schneider, 1783)—Painted Turtle

**C. p. bellii** (Gray, 1831)—Western Painted Turtle
**C. p. dorsalis** Agassiz, 1857—Southern Painted Turtle
**C. p. marginata** Agassiz, 1857—Midland Painted Turtle
**C. p. picta** (Schneider, 1783)—Eastern Painted Turtle

**Clemmys** Ritgen, 1828—AMERICAN POND TURTLES
Restriction of *Clemmys* to North American taxa follows McDowell (1964, Proc. Zool. Soc. London 143: 239). Although the genus *Clemmys* herein includes four species, Bickham et al. (1996, Herpetologica 52: 89–97) and Burke et al. (1996, Herpetologica 52: 572–584) have recently shown that the genus may be paraphyletic relative to *Emys*, *Emydoidea*, and *Terrapene*. Thus, the current generic arrangement is likely to change in the near future.

**C. guttata** (Schneider, 1792)—Spotted Turtle

**C. insculpta** (LeConte, 1830)—Wood Turtle
**C. marmorata** (Baird and Girard, 1852)—Pacific Pond Turtle
We have retained the name Pacific Pond Turtle (e.g., Carr, 1952, Handbook of Turtles, Comstock Press; Iverson, 1992, A revised checklist with distribution maps of the turtles of the World. Privately printed) despite Collins’ (1997, SSAR Herpetol. Circ. 25) recent recommendation to change the name to the Western Pond Turtle.

**C. m. marmorata** (Baird and Girard, 1852)—Northern Pacific Pond Turtle

**C. m. pallida** Seeliger, 1945—Southern Pacific Pond Turtle

**C. muhlenbergii** (Schoepff, 1801)—Bog Turtle
Reviewed by Ernst and Bury (1977, Cat. Am. Amph. Rept. 204).

**Deirochelys** Agassiz, 1857—CHICKEN TURTLES

**D. reticularia** (Latreille, 1801)—Chicken Turtle
  **D. r. chrysea** Schwartz, 1956—Florida Chicken Turtle
  **D. r. miaria** Schwartz, 1956—Western Chicken Turtle
  **D. r. reticularia** (Latreille, 1801)—Eastern Chicken Turtle

**Dermochelys** Blainville, 1816—LEATHERBACK SEA TURTLES

**D. coriacea** (Vandelli, 1761)—Leatherback Seaturtle

**Emydoidea** Gray, 1870—BLANDING’S TURTLES

**E. blandingii** (Holbrook, 1838)—Blanding’s Turtle

**Eretmochelys** Fitzinger 1843—HAWKSBILL SEATURTLES
See note under *Caretta*.

**E. imbricata** (Linnaeus, 1766)—Hawksbill Seaturtle
  **E. i. bissa** (Rüppell, 1835)—Pacific Hawksbill Seaturtle
  **E. i. imbricata** (Linnaeus, 1766)—Atlantic Hawksbill Seaturtle

**Gopherus** Rafinesque, 1832—GOPHER TORTOISES
We follow Crumly (1994, Fish Wildlife Res. 13: 7–37) in applying the name *Gopherus* to all four of the living North American testudinids (one of which is extralimital). Reviewed by Auffenberg and Franz (1978, Cat. Am. Amph. Rept. 211).

**G. agassizii** (Cooper, 1863)—Desert Tortoise

**G. berlandieri** (Agassiz, 1857)—Berlandier’s Tortoise

**G. polyphemus** (Daudin, 1802)—Gopher Tortoise
**Graptemys** Agassiz, 1857—MAP TURTLES

*G. barbouri* Carr and Marchand, 1942—Barbour’s Map Turtle

*G. caglei* Haynes and McKown, 1974—Cagle’s Map Turtle

*G. ernsti* Lovich and McCoy, 1992—Escambia Map Turtle

*G. flavimaculata* Cagle, 1954—Yellow-blotched Map Turtle

*G. geographica* (LeSueur, 1817)—Northern Map Turtle
We have changed the name from Common Map Turtle because of the possibility that the word “common” might be misinterpreted to imply abundance rather than to the fact that it has a broad range. Reviewed by McCoy and Vogt (1990, Cat. Am. Amph. Rept. 484).

*G. gibbonsi* Lovich and McCoy, 1992—Pascagoula Map Turtle

*G. nigrinoda* Cagle, 1954—Black-knobbed Map Turtle

*G. n. delticola* Folkerts and Mount, 1969—Delta Map Turtle

*G. n. nigrinoda* Cagle, 1954—Black-knobbed Map Turtle

*G. oculifera* (Baur, 1890)—Ringed Map Turtle

*G. ouachitensis* Cagle, 1953—Ouachita Map Turtle

*G. o. ouachitensis* Cagle, 1953—Ouachita Map Turtle

*G. o. sabinensis* Cagle, 1953—Sabine Map Turtle

*G. pseudogeographica* (Gray, 1831)—False Map Turtle

*G. p. kohnii* (Baur, 1890)—Mississippi Map Turtle

*G. p. pseudogeographica* (Gray, 1831)—False Map Turtle

*G. pulchra* Baur, 1893—Alabama Map Turtle

*G. versa* Stejneger, 1925—Texas Map Turtle

**Kinosternon** Spix, 1824—AMERICAN MUD TURTLES
Iverson (1991, Herpetol. Monog. 5: 1–27) is the most recent reviewer of this genus. See also comment under *Sternotherus*.

*K. arizonense* Gilmore, 1922—Arizona Mud Turtle

*K. baurii* (Garman, 1891)—Striped Mud Turtle
**K. flavescens** (Agassiz, 1857)—Yellow Mud Turtle

**K. hirtipes** (Wagler, 1830)—Rough-footed Mud Turtle
Collins (1997, SSAR Herpetol. Circ. 25) suggested the name Mexican Mud Turtle for this turtle, but that name is generally applied to *Kinosternon integrum* (Iverson et al., 1998, Cat. Am. Amph. Rept. 652).

**K. murrayi** Glass and Hartweg, 1951—Mexican Plateau Mud Turtle

**K. sonoriense** LeConte, 1854—Sonora Mud Turtle

**K. s. longifemorale** Ivenson, 1981—Sonoyta Mud Turtle

**K. s. sonoriense** LeConte, 1854—Sonora Mud Turtle

**K. subrubrum** (Lacepède, 1788)—Eastern Mud Turtle

**Lepidochelys** Fitzinger, 1843—RIDLEY SEATURTLES

**L. kempii** (Garman, 1880)—Kemp’s Ridley Seaturtle

**L. olivacea** (Eschscholtz, 1829)—Olive Ridley Seaturtle

**Macrochelys** Gray, 1856—ALLIGATOR SNAPPING TURTLES

**M. temminckii** (Troost in Harlan, 1835)—Alligator Snapping Turtle
Webb (1995, Chelonian Conserv. Biol. 1: 322–323) demonstrated that the name *Macrochelys* Gray has precedence over the name *Macroclemys* Gray contra Smith (1955, Herpetologica 11: 16), who argued that the use of *Macrochelys* was incorrect for this genus.

**Malaclemys** Gray, 1844—DIAMOND-BACKED TERRAPINS

**M. terrapin** (Schopf, 1793)—Diamond-backed Terrapin
A detailed study of the geographic variation of these turtles should prove highly informative.

**M. t. centrata** (Latreille, 1801)—Carolina Diamond-backed Terrapin
**M. t. littoralis** (Hay, 1904)—Texas Diamond-backed Terrapin
M. t. macrospilota (Hay, 1904)—Ornate Diamond-backed Terrapin

M. t. pileata (Wied-Neuwied, 1865)—Mississippi Diamond-backed Terrapin

M. t. rizophorarum Fowler, 1906—Mangrove Diamond-backed Terrapin

M. t. tequesta Schwartz, 1955—Florida East Coast Terrapin

M. t. terrapin (Schoepff, 1793)—Northern Diamond-backed Terrapin

Palea Meylan, 1987—WATTLE–NECKED SOFTSHELLS

P. steindachneri (Siebenrock, 1906)—Wattle-necked Softshells (Introduced)

Pelodiscus Gray, 1844—CHINESE SOFTSHELLS

P. sinensis (Weigman, 1835)—Chinese Softshells (Introduced)

Pseudemys Gray, 1856—COOTERS


P. alabamensis Baur, 1893—Alabama Red-bellied Cooter

P. concinna (LeConte, 1830)—River Cooter

Only two subspecies are recognized here: Pseudemys concinna concinna, and P. c. floridana. Seidel (1994, Chelon. Conserv. Biol. 1: 117–130) demonstrated that P. c. hieroglyphica and P. c. metteri are not distinct and represent only clinal variation; he elevated P. c. suwanniensis to species status (see separate entry); and he relegated P. floridana to a subspecies of P. concinna (see comments below). Reviewed by Seidel and Dreslik (1996, Cat. Am. Amph. Rept. 626).

P. c. concinna (LeConte, 1830)—Eastern River Cooter

P. c. floridana (LeConte, 1830)—Coastal Plain Cooter

This subspecies was formerly recognized as Pseudemys floridana floridana, but Seidel (1994, Chelon. Conserv. Biol. 1: 117–130) transferred it to Pseudemys concinna. Jackson (1995, Chelon. Conserv. Biol. 1: 329–333) objected to this based on observations that concinna and floridana are sympatric in northern Florida and South Carolina. Seidel (1995, Chelon. Conserv. Biol. 1: 333) countered that the two forms may be macrosympatric at some locations, but that they intergrade in other areas. Based on morphometric, osteological, biochemical, and pigmentation studies, op. cit.) found no character which reliably separates the two forms in many transition areas (intergrade zones) between the coastal plain and piedmont of the Atlantic slope.

P. gorzugi Ward, 1984—Rio Grande Cooter


P. nelsoni Carr, 1938—Florida Red-bellied Cooter
**P. peninsularis** Carr, 1938—Peninsula Cooter

**P. rubriventris** (Le Conte, 1830)—Northern Red-bellied Cooter

**P. suwanniensis** Carr, 1937—Suwannee Cooter
Seidel (1994, Chelon. Conserv. Biol. 1: 117–130) elevated this form from a subspecies of *P. concinna* to a species based on his belief that it is allopatric or parapatric with other members of the *concinna* group. However, Jackson (1995, Chelon. Conserv. Biol. 1: 329–333) believes that it may intergrade with *P. c. concinna* in northern Florida and thus does not deserve species status. Availability of and analysis of more material from the Gulf Hammock region of Northwest Florida will be necessary to resolve this controversy.

**P. texana** Baur, 1893—Texas River Cooter

**Sternotherus** Gray, 1825—MUSK TURTLES

**S. carinatus** (Gray, 1855)—Razor-backed Musk Turtle

**S. depressus** Tinkle and Webb, 1955—Flattened Musk Turtle

**S. minor** (Agassiz, 1857)—Loggerhead Musk Turtle

**S. m. minor** (Agassiz, 1857)—Loggerhead Musk Turtle

**S. m. peltifer** Smith and Glass, 1947—Stripe-necked Musk Turtle

**S. odoratus** (Latreille, 1801)—Stinkpot
We have changed the name from Common Musk Turtle because of the possibility that the word “common” might be misinterpreted to imply abundance rather than to the fact that it has a broad range. Reviewed by Reynolds and Seidel (1982, Cat. Am. Amph. Rept. 287).

**Terrapene** Merrem, 1820—AMERICAN BOX TURTLES

**T. carolina** (Linnaeus, 1758)—Eastern Box Turtle

**T. c. bauri** Taylor, 1894—Florida Box Turtle

**T. c. carolina** (Linnaeus, 1758)—Eastern Box Turtle

**T. c. major** (Agassiz, 1857)—Gulf Coast Box Turtle

**T. c. triunguis** (Agassiz, 1857)—Three-toed Box Turtle
**T. ornata** (Agassiz, 1857)—Ornate Box Turtle

* T. o. luteola Smith and Ramsey, 1952—Desert Box Turtle
* T. o. ornata (Agassiz, 1857)—Ornate Box Turtle

**Trachemys** Agassiz, 1857—SLIDERS

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

* T. scripta (Schoepff, 1792)—Pond Slider
  * T. s. elegans (Wied–Neuwied, 1838)—Red-eared Slider
  * T. s. scripta (Schoepff, 1792)—Yellow-bellied Slider
  * T. s. troostii (Holbrook, 1836)—Cumberland Slider