

. . . reprinted from *SSAR Herpetological Review* 22(2): 42–43 (1991) for gratis distribution by the author. This paper is often overlooked when citing the origin for recognizing as species the fifty-five taxa addressed therein. In 1990, the article was submitted to Martin Rosenberg (then editor of *Herpetological Review*) and was refereed by at least three anonymous reviewers. After minor marginal corrections and the addition of the word “Viewpoint” to the title, the manuscript was published in 1991. Recipients of this pdf are urged to distribute it to their colleagues.

VIEWPOINT: A NEW TAXONOMIC ARRANGEMENT FOR SOME NORTH AMERICAN AMPHIBIANS AND REPTILES

Subsequent to the discussion by Frost and Hillis (1990) of species and the relevance of species concepts to practical taxonomy, it has become clear to me that a relatively large number of species of amphibians and reptiles in the United States have been camouflaged by the “subspecies” taxonomy that has grown up around what I now think is an out-dated viewpoint.

Besides providing recognition of the real species diversity in nature, a rigorous application of the evolutionary species concept (as discussed in Frost and Hillis, 1990) would also reduce the number of arbitrarily defined subspecies dramatically, although several subspecies complexes (e.g. *Ensatina eschscholtzii*, *Lampropeltis getula*, *Lampropeltis triangulum*) undoubtedly contain a number of real species. I realize that in some cases the recognition of an obvious species (e. g. *Ensatina e. klauberi* elevated to *E. klauberi*) might leave the residual binomial (i.e. *Ensatina eschscholtzii*) representing a group of cryptic species of uncertain relationship to each other. However, because no changes can be made in these “agglomerative” taxa without some initial uncertainty, I have not addressed them here.

In my opinion, much of the specific and subspecific taxonomy in use by herpetologists today is arbitrary and lacks historical reality. It is also clear that the non-systematist public is generally unaware of this. The following list of “hidden” species is not exhaustive because of the ambiguity of evidence and information available to me. (Is *Pseudemys rubriventris bangsi* morphologically or genetically distinct from *P. r. rubriventris*?

Current Subspecies Name

Salamanders

Ambystoma macrodactylum croceum
Cryptobranchus alleganiensis bishopi
Gyrinophilus palleucus gulolineatus
Necturus maculosus louisianensis
Plethodon dorsalis angusticlavius
Plethodon vandykei idahoensis
Pseudotriton montanus diastictus
Taricha torosa sierrae

Frogs and Toads

Bufo hemiophrys baxteri
Bufo microscaphus californicus
Pseudacris streckeri illinoensis
Rana areolata capito
Rana sylvatica maslini
Scaphiopus holbrookii hurterii

Turtles

Kinostemon flavescens arizonense
Kinostemon flavescens spooneri
Pseudemys concinna gorzugi
Pseudemys concinna suwanniensis

Lizards

Cnemidophorus burti xanthonotus
Crotaphytus insularis vestigium
Eumeces egregius insularis
Eumeces gilberti arizonensis
Eumeces septentrionalis obtusirostris
Holbrookia lacerata subcaudalis
Ophisaurus attenuatus longicaudus
Sceloporus graciosus arenicolous
Sceloporus graciosus vandenburgianus
Uta stansburiana stejnegeri
Xantusia vigilis utahensis

Snakes

Arizona elegans occidentalis
Carphophis amoenus vermii
Cemophora coccinea lineri
Coluber constrictor mormon
Diadophis punctatus acricus
Diadophis punctatus amabilis
Drymarchon corais couperi
Elaphe vulpina gloydi
Farancia erytroramma seminola
Lampropeltis triangulum taylori
Lampropeltis calligaster occipitolineata
Lampropeltis pyromelana infralabialis
Lampropeltis zonata multifasciata
Lampropeltis zonata parvirubra
Lampropeltis zonata pulchra
Masticophis bilineatus lineolatus
Micrurus fulvius tener
Nerodia harteri paucimaculata
Pituophis melanoleucus catenifer
Pituophis melanoleucus ruthveni
Tantilla relicta pamlica
Tantilla rubra cucullata
Tantilla rubra diabola
Thamnophis couchii gigas
Thamnophis sirtalis dorsalis
Virginia valeriae pulchra

Proposed Species Name

Ambystoma croceum
Cryptobranchus bishopi
Gyrinophilus gulolineatus
Necturus louisianensis
Plethodon angusticlavius
Plethodon idahoensis
Pseudontriton diastictus
Taricha sierrae

Bufo baxteri
Bufo californicus
Pseudacris illinoensis
*Rana capito*¹
Rana maslini
Scaphiopus hurterii

Kinostemon arizonense
Kinostemon spooneri
Pseudemys gorzugi
Pseudemys suwanniensis

Cnemidophorus xanthonotus
Crotaphytus vestigium
Eumeces insularis
Eumeces arizonensis
Eumeces obtusirostris
Holbrookia subcaudalis
Ophisaurus longicaudus
Sceloporus arenicolous
Sceloporus vandenburgianus
Uta stejnegeri
Xantusia utahensis

*Arizona occidentalis*²
Carphophis vermii
Cemophora lineri
Coluber mormon
Diadophis acricus
*Diadophis amabilis*³
Drymarchon couperi
Elaphe gloydi
Farancia seminola
Lampropeltis taylori
Lampropeltis occipitolineata
Lampropeltis infralabialis
Lampropeltis multifasciata
Lampropeltis parvirubra
Lampropeltis pulchra
Masticophis lineolatus
Micrurus tener
Nerodia paucimaculata
*Pituophis catenifer*⁴
Pituophis ruthveni
Tantilla pamlica
Tantilla cucullata
Tantilla diabola
Thamnophis gigas
Thamnophis dorsalis
Virginia pulchra

If so, it should be *Pseudemys bangsi*.) None-the-less, based on Conant (1975) Conant and Collins (1991), and Stebbins (1985), the following taxa exhibit two characteristics which reveal their specific distinctness: 1) They are mapped as allopatric (based on the best published evidence available), and 2) they are in some way morphologically (and presumably genetically) distinct.

I would encourage the adoption of the taxonomic arrangement listed above, unless or until data indicate differently. Indeed, some systematists have already recommended a number of the changes proposed above (see Collins, 1990). Not to do so continues the myth of morphologically distinct, allopatric subspecies, thereby diluting the species concept and obfuscating the evolutionary diversity of the North American (north of Mexico) herpetofauna.

Literature Cited

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¹ *Rana capito* would retain the subspecies *R. c. aesopus* and *R. c. sevosa*. *Rana areolata* would retain the subspecies *R. a. circulosa*. ² *Arizona occidentalis* would retain the subspecies *A. o. candida*, *A. o. ebumata*, and *A. o. noctivaga*. *Arizona elegans* would retain the subspecies *A. e. philipi*. ³ *Diadophis amabilis* would retain the subspecies *D. a. modestus*, *D. a. occidentalis*, *D. a. pulchellus*, *D. a. similis*, and *D. a. vandenburgii*. *Diadophis punctatus* would retain the subspecies *D. p. armyi*, *D. p. edwardsii*, *D. p. regalis*, and *D. p. stictogenys*. ⁴ *Pituophis catenifer* would retain the subspecies *P. c. affinis*, *P. c. annectens*, *P. c. deserticola*, *P. c. pumilis*, and *P. c. sayi*. *Pituophis melanoleucus* would retain the subspecies *P. m. lodingi* and *P. m. mugitus*.