

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA  
Amendments to Appendices I and II of CITES

Eleventh Meeting of the Conference of the Parties  
Nairobi (Kenya), April 10-20, 2000

A. PROPOSAL

Deletion of *Bufo retiformis* from Appendix II

B. PROPONENT

The United States of America

C. SUPPORTING STATEMENT

1. Taxonomy

- 1.1 Class: Amphibia
- 1.2 Order: Anura
- 1.3 Family: Bufonidae
- 1.4 Species: *Bufo retiformis*
- 1.5 Scientific synonyms: *Bufo debilis retiformis* (Original described as *Bufo debilis retiformis*, Sanders and Smith, 1951, in Field and Laboratory, Vol. 19, p. 153, pl.3, fig. 1. (Beltz 1995). Revision to *Bufo retiformis* by Bogert, 1962.)
- 1.6 Common names:
  - English: Sonoran green toad
  - Spanish: Sapo Sonorense
  - French: Crapaud vert du Sonora
- 1.7 Code Numbers: A-403.002.003.158

2. Biological Parameters

- 2.1 Distribution: The range of the species is somewhat continuous from west-central Sonora, Mexico, to south-central Arizona, United States (Sullivan *et al.* 1996, Rosen 1996, Arizona Game and Fish Department's Heritage Data Management System (AGFD's HDMS)). In Arizona, it ranges from the vicinity of San Cristobal Wash, just west of Organ Pipe Cactus National Monument, north to tributaries of Waterman Wash near Mobile southwest of Phoenix, southeast to the vicinity of Tucson (San Xavier Mission), and south west to the international border with Mexico near Sasabe. From the international border, *B. retiformis* extends through the State of Sonora to north of Guaymas.

*B. retiformis* occupies a variety of vegetation communities including creosote flats (Sonoran desert scrub, lower Colorado subdivision), upland saguaro-palo verde (Sonoran desert scrub, Arizona upland subdivision), and semi-arid and desert grasslands (>900 m).

No detailed distributional information is available on its distribution in Sonora, Mexico. It is also unknown whether there is exchange of individuals between the U.S. and Mexican populations.

- 2.2 Habitat availability: Over 95% of this species' distribution in Arizona is on tribal lands (the Tohono O'Odham Nation). Potential threats to habitat on tribal lands and in Mexico include water development (i.e., wells), agricultural conversion, and urban sprawl. There is no significant evidence of these threats on tribal land in regards to this species. Habitats in the Organ Pipe Cactus National Monument are protected from development by federal law.
- 2.3 Population status: There are no censuses or surveys estimating population numbers in the United States. Ashton (1976) reported that Arizona populations were stable. In 1993-1994, Sullivan *et al.* (1996) found this species at almost all historic localities and some new sites in the United States, although their surveys were somewhat limited due to access to tribal lands. Little information is available for Mexican populations. Sullivan *et al.* (1996) and informal reports (personal communications with herpetologists familiar with this species and species occurrence data sheets recorded by AGFD's HDMS) suggest *B. retiformis* populations in Arizona are stable.
- 2.4 Population trends: As noted above, there are no censuses or surveys estimating population numbers in the U.S. However, it appears that the species is stable (see Section 2.5).
- 2.5 Geographic trends: Sullivan *et al.* (1996) found *B. retiformis* at all but two historic localities. In addition, they documented range extensions to the northwest and southwest. It is anticipated that additional occurrences may be documented if more studies are conducted within the interior of tribal lands and Organ Pipe Cactus National Monument.
- 2.6 Role of the species in its ecosystem: No specific studies could be found on the interspecific relationship of *B. retiformis* and other species in its ecosystem. However, adults and the larvae of other anuran species are thought to have important roles in regulating invertebrate populations and represent a food source for other vertebrates.
- 2.7 Threats: There are no known or documented immediate threats to this species. However, other anurans (e.g., ranids) in southern Arizona are experiencing declines due to competition with exotic species (e.g., bullfrogs, sportfish), pathogens (e.g., chytrid fungus), habitat degradation, and possibly airborne toxins.

*Bufo retiformis* is known to hybridize naturally with *B. punctatus*, but the occurrence of hybrids is rare. The development of some new livestock tanks will likely contribute to hybridization events by increasing levels of interaction between two species otherwise ecologically separated. Although livestock grazing may negatively impact their habitat, the development of associated livestock water tanks may benefit the species. New road construction through historical habitat may, however, kill some adult toads moving to breeding sites during the summer rainy season.

Communications with herpetologists, herpetofauna pet dealers, and review of dealer price lists suggests there is no detectable legal or illegal trade in any life stage of *B. retiformis*. CITES and U.S. Customs documents also suggest there is no international trade in this species. An unknown number of toads are taken by individuals for pets.

### 3. Utilization and Trade

- 3.1 National utilization: No substantial legal or illegal trade in this species is documented in the United States. An unknown number of toads may be taken by individuals for pets. Arizona state law allows up to 10 toads per year to be taken by anyone with a valid fishing license. Recent communications with herpetologists, reptile dealers, and a review of current price lists revealed no other incidents of trade in this species.
- 3.2 Legal international trade: The United States is unaware of any legal or illegal commercial trade or substantial harvest of *B. retiformis*. The World Conservation Monitoring Center found only one record of international trade. In 1979, Switzerland imported five (5) toads from Germany.

Since 1994, U.S. Fish and Wildlife Service, Office of Management Authority, has not issued any export permits or certificates for any life stage, body part, or derivative of the toad.

3.3 Illegal trade: The U.S. Fish and Wildlife Service and Arizona Game and Fish Department are unaware of any illegal trade in this species.

3.4 Actual or potential trade impacts: Since there are no records of legal or illegal trade in *B. retiformis*, removing this species from Appendix II is unlikely to affect the wild population.

3.5 Captive-breeding or artificial propagation for commercial purposes: No private or commercial breeders are known to have bred this species in large numbers. To our knowledge, the Arizona-Sonora Desert Museum (ASDM) is the only zoological institution maintaining this species, currently holding 6 wild-caught animals. ASDM has been successful in establishing a captive breeding population.

#### 4. Conservation and Management

##### 4.1 Legal status

4.1.1 National: The U.S. Forest Service lists this species as "sensitive" in Arizona. Arizona Game and Fish Commission Order 41 (issued in 1999) allows the take of up to 10 toads per year with a valid fishing or combination license. State statutes prohibit commercial trade of herpetofauna originating from Arizona. The Tohono O'odham Nation requires special permission to collect this species on tribal property. Current measures of protection at the state, federal, and tribal levels appear adequate to protect *B. retiformis* from future collection pressures. In Mexico, it is federally listed as "rare", requiring a scientific collecting permit. Current measures of protection in Mexico appear adequate to protect *B. retiformis* from future collection pressures.

4.1.2 International: The species is currently listed in Appendix II of CITES.

##### 4.2 Species management

4.2.1 Population monitoring: Sullivan *et al.* (1996) surveyed the distribution and status of this species in southern Arizona in 1992-1994. They reported finding *B. retiformis* at or near most historic localities, except two. In addition, they documented range extensions to the northwest and southwest. Incidental sightings are regularly reported to Arizona Game and Fish Department by agency and private herpetologists working in southern Arizona. AGFD records these observations in their Heritage Data Management System.

4.2.2 Habitat conservation: No habitat has been specifically protected for this species in either Mexico or the United States. However, most of its range in the United States is on Tohono O'odham tribal land and is relatively undisturbed or unsuitable for development. As a federal park, habitat within the Organ Pipe Cactus National Monument is protected from development in perpetuity. Additionally, U.S. federal legislation such as the Clean Water Act and National Environmental Protection Act incidentally help protect the habitat of *B. retiformis*.

4.2.3 Management measures: The collection or harvest of *B. retiformis* for commercial trade is prohibited on Tribal lands and Organ Pipe Cactus National Monument in Arizona, as well as in Mexico. There are no existing or anticipated planned harvests for this species in either of the two range countries.

##### 4.3 Control measures

4.3.1 International trade: The only international control measures for this species is the protection provided by being listed in Appendix II of CITES.

4.3.2 Domestic measures: In Mexico, *B. retiformis* is listed as "rare", and therefore, a permit is required to collect specimens. The Arizona Game and Fish Commission Order 41 allows the take of up to 10 toads per year on state lands with a valid fishing or combination license. Collecting information is distributed yearly through the Arizona Reptile and Amphibian Regulations. Presentations are also periodically given to local herpetology associations to explain the regulations. Exportation from the United States requires a declaration form to establish legal collection. Current measures of protection at the state, federal, and tribal levels, and in the country of Mexico appear adequate to protect *B. retiformis*, as there has been no significant trade detected.

## 5. Information on Similar Species

The Sonoran green toad could be confused with the green toad, *Bufo debilis*. They are similar in size and coloration, but their ranges are separated geographically. However, *B. retiformis* has large divergent paratoid glands (large, greenish to yellow oval spots outlined in black or brown). Without prior experience or an identification chart in hand, it could be difficult for a non-expert to tell the two apart. To help identify between these two species, non-experts can use the descriptions and drawings of a field guide (e.g., Stebbins 1985).

Since there is no known legal or illegal trade in *B. retiformis*, we anticipate there would be no effect on *B. debilis* due to misidentification.

## 6. Other Comments

The Government of Mexico has been consulted on the status and utilization of this species within Mexico, but no response has been received. If substantial information is obtained from Mexico, we will revise this proposal to address this additional information.

## 7. Additional Remarks

This species does not qualify for retention in Appendix II, according to Resolution Conf. 9.24, since it is not known to be in trade, nor is it known, inferred, or projected that harvesting specimens from the wild for international trade has, or may have a detrimental impact on the species.. In addition, the following also applies:

- 1) In the United States, a major portion of the species habitat is under State, Tribal, or Federal protection;
- 2) Throughout the species' range in both countries, the species is protected under State, Tribal, and Federal regulations and laws;
- 3) The species appears to be stable, with a stable or expanding range; and
- 4) There appears to be no substantial human threat to the species.

Thus, it does not meet the criteria for inclusion of species in Appendix II in Accordance with Article II, Paragraph 2(a), as outlined in Resolution Conf. 9.24, Annex 2a.

## 8. References

Beltz, E. 1995. Citations for the original descriptions of North American amphibians and Reptiles. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 24. University of Kansas, Kansas.

Bogert, C. M. 1962. Isolating mechanisms in toads of the *Bufo debilis* group in Arizona and western

Mexico. Amer. Mus. Novitates (2100): 1-37.

Brown, D. E. 1994. Biotic communities: southwestern United States and northwestern Mexico. University of Utah Press, Salt Lake City.

Bury, R. B., C. K. Dodd, and G. M. Fellers 1980. Conservation of the amphibia of the United States: a review. Resource publication 134. United States Department of the Interior Fish and Wildlife Service, Washington, D.C.

Hulse A. C. 1978. *Bufo retiformis*: Sonoran green toad. Catalogue of American amphibians and reptiles. 207.1-2.

Liner, E. A. 1994. Scientific and common names for the amphibians and reptiles of Mexico in English and Spanish. Herpetological Circular No. 23. Society for the Study of Amphibians and Reptiles, University of Kansas, Kansas.

Rosen, P. C. and C. H. Lowe 1996. Ecology of the amphibians and reptiles at Organ Pipe Cactus National Monument, Arizona. Technical Report No. 53, Cooperative Park Studies Unit, USGS, University of Arizona, Tucson, AZ. Xii+136 pp.

Sanders, O., and H. M. Smith 1951. Geographic variation in toads of the *debilis* group of *Bufo*. Field and Lab. 19:141-160.

Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Co., Boston.

Sullivan, B. K., R. W. Bowker, and K. B. Malmos, and E. W. Gergus 1995. Arizona distribution of three Sonoran desert anurans: *Bufo retiformis*, *Gastrophryne olivacea*, and *Pternohyala fodiens*. IIPAM Grant-in-Aid Project report #I92004 for Arizona Game and Fish Department.

Sullivan, B. K., R. W. Bowker, and K. B. Malmos, and E. W. A. Gergus 1996. Arizona distribution of three Sonoran desert anurans: *Bufo retiformis*, *Gastrophryne olivacea*, and *Pternohyala fodiens*. Great Basin Naturalist 56(1): 38-47.

USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Animal Notice of Review. Federal Register 54(4):558.