

## Deletion of Southern Gastric-brooding Frog *Rheobatrachus silus* from Appendix II

### Proponent: Australia

**Summary:** The Southern Gastric-brooding Frog *Rheobatrachus silus* was one of two species in the genus *Rheobatrachus*, both moderately large terrestrial frogs endemic to Australia. Sometimes included in the Australasian anuran (tail-less amphibian) family the Myobatrachidae, CITES taxonomy places the genus in its own family, the Rheobatrachidae. Unremarkable in appearance, both species had an extraordinary reproductive strategy in which the female swallowed fertilised eggs and brooded them in her stomach. *Rheobatrachus silus* was described in 1973 from specimens collected in 1972 and was known from a relatively small area (less than 1400 km<sup>2</sup>) of south-east Queensland. The species was last seen in the wild in September 1981 and the last known captive specimen died in November 1983. Extensive searches for the species have been carried out in suitable habitat since 1981 without success.

*Rheobatrachus* spp. were included in Appendix II in August 1985, by which time both *R. silus* and its sister-species *R. vitellinus* (also the subject of a proposal for deletion from the Appendices (Prop. 41)) were probably extinct. No other species of Australian anuran is included in the Appendices, nor do the *Rheobatrachus* species closely resemble any other anurans listed in the Appendices.

In the highly unlikely event of the species being rediscovered, it would be covered by Australian legislation that prohibits the export of native amphibian species for commercial purposes and requires a permit for export for non-commercial purposes.

**Analysis:** *Rheobatrachus silus* is almost certainly extinct. It was never recorded in international trade under CITES and, with the exception of *R. vitellinus* (also the subject of a proposal for deletion from the Appendices), does not resemble any other species listed in the Appendices. It therefore does not meet the criteria for inclusion in Appendix II. In the highly unlikely event of its rediscovery, Australian national legislation would prohibit its export for commercial purposes.

Supporting Statement (SS)	Additional information
	<u>Taxonomy</u>
Family Myobatrachidae	CITES taxonomy includes the genus in its own family, the Rheobatrachidae. The IUCN Red List database includes the genus in Myobatrachidae (Hero et al., 2004).
	<u>Range</u>
Australia.	
	<u>IUCN Global Category</u>
Extinct.	Classified as Extinct in 2002.

Supporting Statement (SS)	Additional information
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**Biological and trade criteria for retention in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)**

**A) Trade regulation needed to prevent future inclusion in Appendix I**

The species is considered extinct.

The Southern Gastric-brooding Frog was discovered in 1972, although some reports suggest that it was known as early as 1914. It was endemic to south-east Queensland in the Blackall and Cononale Ranges at elevations between 350 m and 800 m above sea level. The entire distribution of the species was estimated to be limited to an area of less than 1400 km<sup>2</sup>.

The Southern Gastric-brooding Frog was last sighted in the wild in September 1981 in the Blackall Range. The last known specimen died in captivity in November 1983. *R. silus* is listed as Extinct nationally under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) and internationally under the IUCN Red List 2011.

*IUCN Red List notes that extensive searches have been carried out since 1981 without success.*

**B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influences**

The species is considered extinct.

The EPBC Act regulates trade in CITES listed and Australian native wildlife and their products. Export of live Australian native amphibians is strictly prohibited for commercial purposes but may they be exported for specific non-commercial purposes (e.g. for research, education or exhibition). As an Australian native amphibian an Australian native export permit would be required for the export of *R. vitellinus* even if it were removed from the CITES Appendices.

If the species was rediscovered, any take from the wild would be strictly regulated by relevant Australian domestic environmental legislation.

**Retention in Appendix II to improve control of other listed species**

**A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP15) Annex 2 a or listed in Appendix I**

The Southern Gastric-brooding Frog *R. silus* was one of two species of gastric brooding frog. Its sister species- the Northern Gastric-brooding Frog, *R. vitellinus*—is also considered to be extinct and has not been located in the wild since 1985.

*Rheobatrachus vitellinus is also the subject of a proposal for deletion from the Appendices. No other Australian frogs are included in the Appendices. The species does not resemble any other amphibians included in the Appendices.*

Supporting Statement (SS)	Additional information
<p><b>Other information</b></p> <p>The most likely cause for the rapid decline and extinction of <i>R. vitellinus</i> was chytridiomycosis resulting from infection with the chytrid fungus.</p> <p>The Southern Gastric-brooding Frog had a unique reproductive mode in that once the eggs were fertilised externally, they were swallowed by the female for further development in her stomach. Fully formed metamorphs (i.e. a young frog that has almost completed metamorphosis from a tadpole into an adult) were then released through the female's mouth after 36 to 43 days.</p>	<p><u>Threats</u></p> <p><u>Other comments</u></p>

**References:**

Hero, J.M., McDonald, K., Alford, R., Cunningham, M. and Retallick, R. (2004). *Rheobatrachus silus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 19 October 2012