

Deletion of Northern Gastric-brooding Frog *Rheobatrachus vitellinus* from Appendix II

Proponent: Australia

Summary: The Northern or Eungella Gastric-brooding Frog *Rheobatrachus vitellinus* 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 vitellinus* was discovered in early 1984 in eastern Queensland occupying a very limited range (less than 500 km²) but common across it. A year later in January 1985 declines were noted at the edges of the distribution although it remained present at other sites. In March 1985 no specimens could be found, and none have been found since, despite extensive searches within suitable habitat. The species was assessed as Extinct by IUCN in 2002.

Rheobatrachus spp. were included in Appendix II in August 1985, by which time both *R. vitellinus* and its sister-species *R. silus* (also the subject of a proposal for deletion from the Appendices (Prop. 40)) 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 vitellinus* is almost certainly extinct. It was never recorded in international trade and, with the exception of *R. silus* (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 Northern Gastric-brooding Frog was discovered and described in January 1984. It occupied a small area of less than 500 km² of the Clarke Range in Eungella National Park and Mt Pelion State Forest of mid-coastal Queensland. It was found to be quite common across its range with up to six frogs occurring in a 2 x 5 m stream. Only one year after its discovery, in January 1985, surveys revealed that the population might be in decline as it could no longer be found in the areas at the edges of its range but was still present at other sites. By March 1985, the Northern Gastric-brooding Frog could not be found in the wild and extensive survey efforts since have failed to relocate it.

The species was considered common across its range until January 1985 when the first signs of decline (reported by Winter and McDonald, 1986) were observed at lower altitudes (i.e., about 400 m asl) (McDonald, 1990). At higher altitudes the frogs remained common until March 1985 but were absent in June of that year (McDonald, 1990).

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 they may 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 Northern Gastric-brooding Frog *R. vitellinus* was one of two species of gastric brooding frog. Its sister species— the Southern Gastric-brooding Frog, *R. silus*—is also considered to be extinct and has not been located in the wild since 1981 and the last known individual died in captivity in 1983.

Rheobatrachus silus 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
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Other information

The most likely cause for the rapid decline and extinction of *R. vitellinus* was chytridiomycosis resulting from infection with the chytrid fungus.

Threats**Other comments**

Rheobatrachus vitellinus was one of only two species known to brood their offspring within their stomach. Young are subsequently regurgitated through the mouth as fully formed metamorphs.

References:

- Hero, J.M., McDonald, K., Alford, R., Cunningham, M. and Retallick, R. (2004). *Rheobatrachus vitellinus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist.org>. Downloaded on 19 October 2012
- McDonald, K.R. (1990). *Rheobatrachus* Liem and *Taudactylus* Straughan & Lee (Anura: Leptodactylidae) in Eungella National Park, Queensland: distribution and decline. *Transactions of the Royal Society of South Australia* 187-194.
- Winter, J. and McDonald, K. (1986). Eungella, the land of cloud. *Australian Natural History* 39-43