

Inclusion of Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica* in Appendix II with a zero annual export quota for wild specimens

Proponent: Japan

Summary: The Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica* is endemic to Japan where it is restricted to moist forest on three islands in the Okinawa group (Ryukyu Archipelago). Forest cover has declined markedly on the islands since the 1980s and potential habitat for the species is now believed to cover around 300 km², virtually all on Okinawa Island. There are no population estimates available. The species was declared a National Natural Monument in 1975 and is therefore completely legally protected in Japan. There are no indications of domestic use of the species. It is in demand from hobbyists in North America, Europe and Asia and it is thought likely that at least a proportion of the turtles entering trade are wild-collected and illegally exported from Japan. Quantitative information is scarce, but it appears that the numbers entering international trade outside Japan are not large (e.g. the total founder population in the USA is estimated at 100–150). The species was assessed by IUCN in 2000 as Endangered.

Analysis: *Geoemyda japonica* has a restricted range, believed to be declining in extent as a result of deforestation. It is legally protected in its range State, with commercial collection and export banned, but is believed to be illegally exported to meet demand in the international hobbyist trade. There are no population estimates for the species, nor figures for numbers in trade, although indications are that the latter are not large. Overall, there is insufficient information to determine with any degree of confidence whether the species meets the criteria for inclusion in Appendix II. Were the species to be included in the Appendices, a zero quota for wild specimens would reflect the national legislation protecting it in Japan.

Supporting Statement (SS)	Additional information
<p data-bbox="136 1098 232 1125">Japan.</p> <p data-bbox="136 1209 448 1236">Endangered A1ce, B1+2c .</p>	<p data-bbox="1032 842 1160 869"><u>Taxonomy</u></p> <p data-bbox="1115 901 2004 1013"><i>One of two extant species assigned to the genus Geoemyda; formerly treated as a subspecies of the second (G. spengleri), present in mainland Asia. A third species, G. amamiensis is known only from Late Pleistocene fossil material from the Amami Islands (Japan).</i></p> <p data-bbox="1066 1037 1144 1064"><u>Range</u></p> <p data-bbox="976 1152 1234 1179"><u>IUCN Global Category</u></p> <p data-bbox="1115 1209 1534 1236"><i>Assessed in 2000; in need of updating.</i></p>

Supporting Statement (SS)**Additional information****Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)****A) Trade regulation needed to prevent future inclusion in Appendix I**

Geoemyda japonica is endemic to Okinawa Island, Kume Island and Tokashiki Island of the Okinawa Island Group, Ryukyu Archipelago, southern Japan.

Essentially confined to *Castanopsis*-dominated forests. Reduction in forest area over several decades now limits the potential maximum range of *Geoemyda japonica* to under 30 000 ha on Okinawa Island, 1000 ha on Kume Island, and 500 ha on Tokashiki Island. [The total range of 31 500 ha converts to 315 km².]

There are no scientifically reasonable estimates for either population size or individual home range size of *G. japonica* on any of those islands inhabited by this turtle. However, the number of individual turtles, whose occurrence had been confirmed by direct counting on each of the three islands was reported (Table below). The area surveyed in this work obviously represents only a part of the whole habitat on each island, actual population size should be much greater.

Habitat	Period	Frequency	Number
Okinawa Island	2002-2002	107 times	302
Kume Island	1994-2002	18 times	29
Tokashiki Island	1994-2000	4 times	12

No precise numerical estimates of population size exist but field observations suggest decline in size and geographic range of *G. japonica* populations on at least Okinawa and Kume Islands since the early 1980s.

Observations on captive individuals suggest that it takes at least three years for newly hatched individuals to attain sexual maturity. Based on some observations on individuals kept in an outdoor open cage on Okinawa Island, an adult female lays one (or sometimes more) clutch, each consisting of one egg or two eggs (or rarely three).

IUCN Endangered A1ce, B1+2c—the Criteria cited indicate population reduction, restricted range and effect of hybridization.

Listed as Threatened II in the 2012 Japan Red List.

There is concern over the reduction in the distribution of this species due to changes in its habitat, land use and illegal capture (Ota and Hamaguchi, 2003).

It is very probable that the Okinawa population is declining because of the rapid reduction in forest area (Yasukawa and Ota, 2008). On Kume, very limited forest habitat is available, restricted to the north and south extremities, with cultivated land between isolating turtle populations. Populations on Kume and Tokashika are reportedly small and particularly at risk because of habitat loss (Yasukawa and Ota, 2008).

It has been suggested that the populations of Kume and Tokashiki Islands could become extinct as a result of land development, since habitat has been greatly restricted and population size already appears to be very small (Yasukawa and Ota, 2008).

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 of great interest to terrarium keepers and online sale prices of 1900 Euro and USD2750 were recorded in October 2012.

Demand and harvesting pressure on wild populations has been shown to be persistent, even in low season (Kanari and Xu, 2012).

Supporting Statement (SS)	Additional information
<p>Only specimens bred in captivity before the 1975 regulations, or their captive-bred progeny could in principle be traded legally.</p> <p>Of 31 <i>G. japonica</i> found recently in markets in China, Japan could be confirmed as the country of origin of six individuals, three of which were reported to have been wild-caught. Prices were between USD1427 and USD5159.</p> <p>It is probable that international trade has stimulated illegal capture of wild individuals and it is therefore necessary to regulate and monitor international trade in this species. Demand as a pet is persistent, there are illegal trade cases such as the incident which the persons concerned were arrested in September, 2003 with suspicion of capture and sale of 41 individuals, and a case of paper sent to prosecutor in August 2011 dealing eight individuals of this turtle.</p>	<p><i>The total of 31 in the SS included 30 individuals allegedly kept specifically for breeding. Six of the turtles were found to originate from Japan: of these, three individuals were described as wild-caught, while the source of the others could not be identified. One shop in Guangzhou, China, and two additional shops in Hong Kong also responded that they accepted orders for G. japonica (Kanari and Xu, 2012). In a series of separate surveys carried out during the period 2000 to 2003, specimens were observed being offered for sale in markets in Hong Kong and China (Cheung and Dudgeon, 2006). A specialist has confirmed that three individuals of this species were on sale at a Hong Kong market in March 2011 (van Dijk in litt., 2011).</i></p> <p><i>In North America, G. japonica is traded as a pet, commanding a high price due to its rarity (Lee, 2004).</i></p> <p><i>The relatively high price demanded for individuals of this species in shops and online outlets in China (including Hong Kong SAR) and the ready availability throughout the year raises particular concern over the impact on wild populations. The species is a restricted-range endemic, highly susceptible to excess exploitation (Kanari and Xu, 2012). A maximum sale price equivalent to USD5159 was recorded in Hong Kong during a 2011–2012 survey (Kanari and Xu, 2012).</i></p> <p><i>A discussion on a turtle forum in 2006 concerning the veracity of claims that G. japonica traded from Hong Kong to the USA were captive-bred included a statement that nobody was then breeding the species in Hong Kong, but it was simply a convenient mid-point for smuggling wild-caught G. japonica with the claim that they were captive-bred animals—see www.turtleforum.com/forum/upload/index.php?showtopic=55453.</i></p> <p><i>Given the relative rarity with which this species has been bred past first generation progeny in captivity, it appears unlikely that all individuals held and traded today are derived from pre-1975 (i.e. legal) imports. The species has been advertised for sale in the USA and in Europe, and has been on sale in markets in Hong Kong in 2011 (Kanari and Xu, 2012). The USFWS reportedly cleared at least 30 individuals for entry between 2004 and 2011 (Kanari and Xu, 2012).</i></p> <p><i>In 2007, TRAFFIC conducted a survey of 40 pet shops dealing in reptiles in Honshu, the main island of Japan, which revealed the illegal sale of species protected under Japan's Cultural Properties Protection Law, including G. japonica (Ishihara et al., 2010).</i></p> <p><i>Regarding trade in the species in the EU, a specimen was observed for sale on a French reptile trader's website in February 2011 (Kanari and Xu, 2012).</i></p> <p><i>According to LEMIS data, since 2000 there have been seven imports into the USA, involving a total of 37 live G. japonica, all of which were reportedly of captive-born/bred</i></p>

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	<p>origin. Hong Kong was recorded as the territory of origin/import for three of these imports (during 2004–05), with the other imports originating from the EU (Austria, Germany and the Czech Republic). Five of the seven imports were for commercial purposes.</p> <p>A recent unofficial source noted in 2012 that every one of the approximately 100–150 founder <i>G. japonica</i> specimens in the USA were wild-caught when imported more than 10 years ago, the great majority of which “probably came through under the radar or with <i>G. spengleri</i> paperwork”—see www.turtleforum.com/forum/upload/index.php?showtopic=143014.</p> <p>According to the LEMIS data for <i>G. spengleri</i> included in the family-level Geoemydidae proposal (CoP16 Prop. 32), over 3500 specimens of this species were imported into the USA during the period 1999–2010. Since China’s population of this species was listed in Appendix III in 2005, reported trade has been limited: the CITES trade database holds records of 816 specimens imported and 24 exported during the years 2005 to 2010 (data downloaded November 2012). The majority of these were imports of live, wild-caught <i>G. spengleri</i> (800 specimens) imported by Germany from China for commercial purposes in 2005. In recent years, reported trade has mainly been in captive-born/bred or pre-Convention specimens, traded in small numbers between the USA, Canada, Germany and Switzerland.</p> <p>Although the SS states “it is probable” that international trade demand has stimulated illegal capture from the wild”, indications are that this is certainly the case.</p>
Inclusion in Appendix II to improve control of other listed species	
<u>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</u>	
<p>Its closely related species, <i>G. spengleti</i> has more markedly developed saw-tooth pattern and cephalic dark reddish brown dashed lines are not seen. Therefore, it is possible to identify from <i>G. japonica</i>. In addition, <i>G. spengleti</i> in China is included in CITES Appendix III.</p>	<p><i>Non-specialists typically have difficulty in identifying the many species of Geoemydidae in international trade because of their broad similarity and frequent lack of prominent diagnostic features, but the extent to which this is a problem in practical enforcement of regulations is not clear.</i></p>

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<p>Other information</p> <p>Principally loss and degradation of forest habitat. Construction of roads and tracks, including within protected areas, promotes population fragmentation, mortality, and reduces forest floor humidity. Large numbers of turtles have been found trapped in roadside drainage channels.</p> <p>Invasion of exotic potential predators including mongooses, wild dogs and cats into its habitats in Okinawa Island and the intercrossing with <i>Cuora flavomarginata</i> or <i>Mauremys mutica</i> are also concerned.</p>	<p><u>Threats</u></p> <p><i>Illegal collection for private pet-keeping or the live animal trade and insecticide spraying to control pine beetle are suspected to affect populations (Yasukawa and Ota, 2008). There are possible threats from competition from two other geoemydid turtles recently introduced to Okinawa (Yasukawa and Ota, 2008).</i></p> <p><i>Hybrid specimens of C. flavomarginata and G. japonica have been recorded and could, in future, significantly affect G. japonica populations (AC18 Doc. 7.1).</i></p>
<p><u>Conservation, management and legislation</u></p> <p>The species was declared a National Natural Monument in Japan in 1975 (26 June) and all handling, capture and trade is subject to the Law for the Protection of Cultural Properties of the Japanese National Government. This law prohibits handling, use and trade without permission. The management authority will not allow export after its listing in the CITES Appendix II, unless the permission in accordance with the Law for the Protection of Cultural Properties is confirmed, examining the export legitimacy of this turtle at the border in accordance with Foreign Exchange and Foreign Trade Control Act.</p> <p>Some parts of the range are within protected areas, with regulation of land use changes.</p>	<p><u>Conservation, management and legislation</u></p> <p><i>Although protective legislation may have reduced collection of live animals, it is very probable that such collection continues (Yasukawa and Ota, 2008). As noted above, the recent belief among apparently responsible turtle-keepers in the USA (forum post, 2006) was that supposed captive-bred G. japonica traded from Hong Kong were smuggled wild caught animals (see www.turtleforum.com/forum/upload/index.php?showtopic=55453).</i></p>
<p><u>Captive breeding/Artificial propagation</u></p> <p>The proposal notes that there appear to be no active captive breeding programmes in zoos or aquaria but cites reports that captive breeding has occurred.</p>	<p><u>Captive breeding/Artificial propagation</u></p> <p><i>Captive breeding has been reported (Yasukawa and Ota, 2008) but may not be straightforward away from native habitats; terrarium keepers in North America, for example, suggest that while obtaining eggs is achievable, it is much more difficult to hatch young (forum post http://www.turtleforum.com/forum/upload/index.php?showtopic=55453). Subsequent posts on this forum suggest that producing hatchlings, at least among North American turtle keepers, is still a relatively rare event.</i></p>
<p><u>Other comments</u></p>	<p><u>Other comments</u></p> <p><i>Yasukawa and Ota (2008) note that effective protection of this species' primary habitat is the most urgent conservation measure.</i></p>

Supporting Statement (SS)	Additional information
	<p>The species is currently not listed in Appendix III of CITES. It is included in a broader proposal to CoP16 (CoP16 Prop 32) from China and USA to include virtually all Asian Geoemydids in CITES.</p>

Reviewers: C. Shepherd.

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