Transfer of the Burmese Star Tortoise *Geochelone platynota* from Appendix II to Appendix I

Proponent: United States of America

Summary: The Burmese Star Tortoise *Geochelone platynota* is a medium-sized tortoise endemic to the dry zone of central Myanmar. It occurs in deciduous forests, thorn scrub and pastures and possibly various other agricultural landscapes. Historically *G. platynota* was collected for local human consumption. From the mid-1990s it has been in demand internationally for meat and medicine as well as for the pet trade. Fragmentation and conversion of land to row crop agriculture have affected its habitat, including in protected areas where shifting cultivation, illegal tree-felling and bamboo harvesting take place. However, the species can survive in modified habitats if not subjected to excessive harvesting.

The species appears to be extremely depleted in the wild and the view has been expressed that there may now be no viable wild populations. Three areas were identified in the 1990s and early 2000s with notable populations, including one (Myaleik Taung) with what was described as the most significant *G. platynota* population ever found in Myanmar. Populations in all three areas have been reported as subsequently very rapidly reduced to extremely low levels by collection. There are scattered records from elsewhere in central Myanmar, but no recent information from these locations. Three professional hunters reported that they last encountered Burmese Star Tortoises in the wild three to four years ago and have seen none since. Apparently wildlife traders have recently stopped making visits to *G. platynota* areas because few, if any, tortoises are available. The species was assessed by IUCN as Critically Endangered in 2000.

Geochelone platynota was included in the general listing of the family Testudiniade in Appendix II in 1975. Myanmar became a Party to CITES in 1997. Trade has only been reported in the CITES trade database since 1986. From then until 2005, approximately 140 live wild specimens were reported as exported from Myanmar and some 500 re-exports reported as originating from Myanmar. Since 2005, nearly 800 captive-bred specimens and 500 ranched specimens have been reported as exported from Myanmar. An additional 2500 live individuals have been recorded in trade from non-range States, just under half of which have been reported as wild (or with no origin stated) and some of which were re-exports from non-range States.

Commercial harvest and trade of this species is illegal under Myanmar law although export of captive specimens is permitted from one facility within the country, which also contributes to a future release programme.

Analysis: From available information it would appear that *Geochelone platynota* meets the biological criteria for inclusion in Appendix I on the basis of a marked decline as set out in Paragraph C of Annex I to *Resolution Conf. 9.24 (Rev. CoP15)*. It is likely also to have a very small and fragmented population as set out in Paragraph A. The species is in demand for international trade.

Supporting Statement (SS)	Additional information
Range	
Myanmar.	

Supporting Statement (SS)	Additional information
IUCN Global Category	
Critically Endangered A1cd+2cd, C2a.	*Assessed in 2000 using Categories and Criteria ver. 2.3 (needs updating).*
Biological criteria for inclusion in Appendix I	
A) Small wild population **(i) Population or habitat decline; (ii) small sub-populations; (iii) concentrated geographically during one or more life-history phases; (iv) large population fluctuations; (v) high vulnerability**	
The most current available information suggests that *G. platynota* is ecologically extinct in the wild.	G. platynota *is ranked as the eleventh-most endangered tortoise or freshwater turtle in the world (Turtle Conservation Coalition, 2011).* *Scattered individuals are likely to survive elsewhere in the dry zone, but it is unlikely that viable populations remain in Myanmar (Platt* et al*., 2011b).* *In captivity, the number of eggs per clutch is generally four to five, with females depositing one to four clutches each breeding season, or seven to 16 eggs during one breeding season (Platt* et al*., 2011b).*
B Restricted area of distribution **(i) Fragmented or localised population; (ii) large fluctuations in distribution or sub-populations; (iii) high vulnerability; (iv) decrease in distribution, population, area or quality of habitat, or recruitment)**	
G. platynota inhabits the dry zone of central Myanmar where it occurs in deciduous forests, thorn scrub, and pastures. The dry zone is a densely populated agricultural landscape, and both commercial and subsistence harvesting of *G. platynota* have been ubiquitous throughout the region. Suitable habitat still remains within the species' known habitat and within apparent suitable habitat where tortoises have not been found. Recent land use changes are affecting tortoise habitat, even within protected areas. Fragmentation and conversion of land to row crop agriculture also threaten the integrity of *G. platynota* habitat.	*Historically the species probably occurred throughout the dry zone of central Myanmar. Pristine habitats are not required by this species (Platt 2001a, 2001b, Platt* et al., *2003 in Platt* et al., *2011b).* *It is considered unlikely that viable wild populations of* G. platynota *remain in Myanmar (Platt* et al*. 2011b).* *Within the dry zone of central Myanmar, the distribution of* G. platynota *remains ill-defined and few specimen-based locality records are available (Platt* et al*. 2004 in Platt* et al*., 2011b).*

Supporting Statement (SS)	Additional information

C) Decline in number of wild individuals

(i) Ongoing or historic decline; (ii) inferred or projected decline due to decreasing area or quality of habitat, levels of exploitation, high vulnerability, or decreasing recruitment

During surveys conducted from 1999 to 2001, extant *G. platynota* wild populations were identified at three sites in Myanmar, including two protected areas (Shwe, Settaw, and Minzontaung Wildlife Sanctuaries) and village lands near Mya Leik Taung. Since the initial surveys, *G. platynota* populations have precipitously declined throughout Myanmar primarily as a result of over-collection to supply international food and pet markets. Recent (*September 2011*) surveys within some of these areas did not record any individuals. The available evidence now suggests that few, if any, viable populations of *G. platynota* remain, and the species could be ecologically extinct in the wild, even within two protected wildlife sanctuaries – there is no evidence that star tortoises remain in either wildlife sanctuary.

Three professional hunters last encountered star tortoises in the wild 3 to 4 years ago and have seen none since.

One hunter near a wildlife sanctuary claimed to have taken about 300 *G. platynota* in 1999.

It is probable that subsistence harvesting eliminated G. platynota *from many areas of the dry zone well before recent times (Platt* et al*., 2011b).*

Surveys in 1994 and 1999 found a small number of G. platynota *persisting in Shwe Settaw Wildlife Sanctuary (van Dijk, 1994; Platt* et al*., 2001a), although this population was hunted to near extinction soon thereafter (Platt 2001c, Platt* et al*., 2003 and Platt* et al*., 2011 in Platt* et al*., 2011b). Additional specimens of* G. platynota *have been reported from scattered localities in the dry zone, including Hti Chaing Town and Myinthar-Kyarnyut, Mau, Budalin, Sheinmaga, Sing Khaing and Padan villages (Platt 2001a and Platt* et al., *2004 in Platt* et al., *2011b). Thought to occur, but unverified, in the Sagaing Hills.*

Myaleik Taung harboured the least disturbed and most significant G. platynota *population ever identified in Myanmar and plans were made to designate this area as a National Tortoise Sanctuary (Platt* et al., *2003). However, before a sanctuary could be established, collectors from outside the area arrived and rapidly depleted the population (Platt* et al*., 2011b). Likewise, commercial collectors began operating in Minzontaung Wildlife Sanctuary at about the same time, and within a brief period reduced tortoise populations to very low levels (Thanda Swe, 2004, in Platt* et al*., 2011b).*

The Turtle Survival Alliance and Wildlife Conservation Society conducted fieldwork in Shwe Settaw and Minzontaung Wildlife Sanctuaries (SSWS and MWS) in September 2011. No star tortoises were encountered during 174 man-hours and 54 dog-hours of search effort in SSWS, contrasting markedly with their earlier survey in 1999. Interviews of local villagers also suggest G. platynota *is extremely rare in the sanctuary (Platt* et al*., 2011a).The populations in Shwe Settaw and Minzontaung Wildlife Sanctuaries and Myaleik Taung are considered to be reduced to non-viable levels (Platt* et al*., 2011b). For example, traders have stopped making periodic visits because few if any, tortoises are available to buy, and villagers no longer consider it economically worthwhile to devote time and effort to search for star tortoises owing to their rarity.*

Although scattered individuals persist in SSWS, these remaining tortoises cannot be considered a biologically viable population. It is therefore concluded that G. platynota *is most likely "ecologically" extinct in SSWS. No wild tortoises were found during the reconnaissance of MWS. In 2008, an intensive 10-day survey found only a single star tortoise. This is apparently the only verified occurrence of* G. platynota *in the sanctuary since 2004 (Platt* et al*., 2011a).*

Supporting Statement (SS)	Additional information
Trade criteria for inclusion in Appendix I	
The species is or may be affected by trade	
Over-harvesting for subsistence and commercial purposes is believed to be the single most important threat to the continued survival of *G. platynota* populations in the wild. Historically the species has been locally Myanmar collected for human consumption and later was also in demand from China for its meat and alleged medicinal purposes and for the international pet trade. Continued international commercial demand poses a serious impediment to reintroducing *G. platynota* into the wild and its eventual recovery.	*Reported trade from Myanmar numbered 136 wild individuals with the last reported wild trade (130 live) exported in 2005. Since then, there have been 765 captive-bred specimens, mainly reported as imports, and 500 ranched specimens. In addition, some 500 live specimens have been reported as re-exports originating from Myanmar. Approximately 2500 live specimens, just under half of which have been reported as wild or of no origin recorded, have also been reported in trade, some of which were re-exports from non-range States.*
According to the UNEP-WCMC CITES Trade Database, *G. platynota* were legally traded for the following years: 1986, 1987, 1990 to 1992, 1995, 1997, and 1999 to 2011 (incomplete). All *G. platynota* imports for the mentioned years account for 4620 animals, mostly for commercial purposes (76.5%) and from captive sources (55.6%). For all (re-) exports, there were a total of 2,127 animals, also mostly for commercial purposes (77.6%) and from captive sources (68.2%). By far, Japan is the largest importer and (re-) exporter, accounting for 50% of the imports and 88% of the (re-) exports. Wild *G. platynota* sources for imports and (re-) exports account for 15% and 14% respectively.	*The Burmese Star Tortoise is one of the CITES-listed species over which there are serious concerns of false claims of captive-breeding and laundering of wild specimens (Vinke and Vinke, 2010). According to CITES trade data, over 1000 "captive-bred" specimens of* G. platynota *were imported into Thailand and Japan from Lebanon between 2004 and 2006, 60% of which were declared as having their origin in Kazakhstan. In addition, another ~200 specimens with their origin declared to be Kazakhstan or Lebanon were reportedly re-exported by Thailand to Japan, Taiwan, Indonesia and Bulgaria between 2004 and 2009. There are no records of this species having been imported into Kazakhstan. There is one record of specimens having been exported to Lebanon--eight live captive-bred specimens from Switzerland in 2005. Therefore, there is no evidence to support the presence of legal parental stock being used in captive-breeding facilities in Kazakhstan or Lebanon.*
Harvesting dramatically increased and ceased to be a local subsistence activity in the mid-1990s when traders began purchasing tortoises for export to wildlife markets in southern China.	*Tortoise populations cannot withstand even low to moderate levels of harvest of adults (Congdon* et al.*, 1993) and it is doubtful whether any harvest can be considered truly sustainable (Thorbjarnarson* et al.*, 2000; Platt* et al.*, 2011b).*
G. platynota is highly prized in the international pet trade, and the demand for this species in the high-end pet trade has pushed *G. platynota* to near extinction. As recently as 2010 and 2011, hundreds of *G. platynota* have been found in illegal turtle shipments. Juveniles and small adults are in especially high demand for the pet trade, while some larger adults enter the food or medicinal market. Because of its illicit nature, the commercial trade in *G. platynota* is extremely difficult to accurately quantify, but there is little doubt that vast numbers of tortoises were removed from the wild over the last decade. Theft of captive animals has occurred and remains a constant concern.	*Numerous, sizable seizures have been reported: see, for example, the 2005 report from the US Fish and Wildlife Service at www.fws.gov/news/NewsReleases/showNews.cfm?newsId=C9EE21A4-65BF-03E7-2E6590F4095D4819, in which Special Agent Kenneth McCloud of the US Fish and Wildlife Service is quoted as saying Burmese Star Tortoise adults were selling for up to USD7000 apiece and juveniles were worth about half that much, adding, "in the last few years we've seen a huge increase in the number of these species being smuggled into the United States... in the past three years alone, we've seized about 500 tortoises". More recently, in 2011, Freeland (see freeland.org/eng/news/press-release/237-hundreds-of-indian-and-burmese-star-tortoises-seized-at-thai-airport). reported that "approximately 370 protected Indian and Burmese Star Tortoises were seized at Thailand's Suvarnabhumi International Airport" on 10 June, and that "Royal Thai Customs officers detected the live contraband in two unclaimed suitcases with loading tags marked Dhaka, Bangladesh". The seized tortoises were "estimated to be worth up to THB 950 000 (USD31 000) on the black market." The report continued*

Supporting Statement (SS)	Additional information
	that, in "September last year, a Pakistani citizen was arrested at Suvarnabhumi Airport with 1140 Star Tortoises after arriving from South Asia"

Other information

Threats

Fragmentation and conversion of land to row crop agriculture also threaten the integrity of *G. platynota* habitat. Even within protected areas, shifting cultivation, illegal tree-felling, and bamboo harvesting are rampant, and it has also been suggested that uncontrolled wildfires pose a direct threat to tortoises.

Conservation, management and legislation

Included in Appendix II of CITES (1975). Myanmar became a CITES signatory in June 1997.

An attempt in 2007 to reintroduce G. platynota *into Minzontaung Wildlife Sanctuary was unsuccessful: tortoises were poached or disappeared for other reasons within six months of being released (Platt* et al., *2011a; Platt* et al., *2011b).*

Future reintroduction plans will provide for monitoring of released animals.

While subsistence harvest of *G. platynota* is permitted, commercial harvest is not. Trade of this species is illegal under Myanmar law, as turtles are protected by both Fisheries and Forestry laws, and all wildlife is afforded complete protection in wildlife sanctuaries and national parks. Protective legislation is enforced by the Wildlife Division of the Forest Department and the Department of Fisheries, which does not issue permits for commercial harvesting of turtles, and Law 34 provides stiff penalties for those engaged in turtle trading. Although all wildlife is afforded complete protection in wildlife sanctuaries and national parks in Myanmar, enforcement is weak to non-existent in many protected areas. For example, *G. platynota* has been extirpated from the three wildlife sanctuaries where it was known to occur.

Future conservation efforts hinge on developing and implementing successful captive-breeding and reintroduction programmes in Myanmar. Currently, offspring are being produced at several rearing facilities in Myanmar, but persistent rampant poaching precludes the reintroduction of tortoises into protected areas (Platt et al*., 2011b).*

Similar species

G. platynota is very similar in appearance to its close relative, the Indian Star Tortoise (*Geochelone elegans*). They can be distinguished because *G. platynota* has a greater star pattern on the carapace and a horny claw at the tip of the male's tail. Also, the plastron of *G. platynota* has dark blotches and lacks the "stars" found on the plastron of *G. elegans*. At first glance, because of the generalized "star" pattern on its carapace, *G. platynota* may also be somewhat confused with *Astrochelys radiata*, the Madagascar radiated tortoise endemic to Madagascar. However, they can be easily distinguished because *A. radiata* has a nuchal scute on the carapace, and its head is bicolored, brown-black on top and yellow below a line that originates at the back of the eye.

G. platynota *occurs both macro- and micro sympatrically with* Indotestudo elongata *(*Geochelone elegans*) (Platt* et al., *2011b).* Geochelone elegans *is listed in CITES Appendix II.*

Captive breeding/Artificial propagation

Supporting Statement (SS)	Additional information
With four government-run facilities and one private-run facility producing hundreds of hatchlings per year, captive breeding and head-starting may be the last option to restoring *G. platynota* to its functional role in the ecosystem. Although previous reintroduction efforts have not been successful because of apparent poaching, recent field assessments suggest that reintroducing star tortoises is feasible at selected sites within wildlife sanctuaries.	*Within Myanmar, captive-breeding colonies are maintained by the Forest Department in Mandalay and in the wildlife sanctuaries of Minzontaung, Shwe Settaw and Lawkanandar with the objective of eventual release of tortoises into the wild. There is also a commercial captive-breeding facility in Myanmar which is permitted to export. It is a requirement of this facility that a certain percentage of production be made available to the Forest Departments' conservation projects. The current capacity of this facility is not known, however an inspection in 2009 revealed over 300 hatchlings and juveniles in addition to the core group of breeding adults. The founder stock came from confiscations and, in some cases, locally collected tortoises (Platt* et al*., 2011b).*
Other comments	
The USA sent a consultation letter to Myanmar; however, did not receive a response.	

Reviewers: W. Ko Ko, K. Platt, S.G. Platt, C. Shepherd.

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