CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Transfer of *Geochelone platynota* from Appendix II to Appendix I; in accordance with Article II, paragraph 1 of the Convention and Resolution Conf. 9.24 (Rev. CoP15), Annex 1, as per:

a) Criteria A. The wild population is small, and is characterized by i) an observed decline in the number of individuals; ii) each subpopulation being very small; and v) a high vulnerability to intrinsic and extrinsic factors;

b) Criteria B. The wild population has a restricted area of distribution and is characterized by i) fragmentation and occurrence at very few locations; iii) a high vulnerability to intrinsic and extrinsic factors; and iv) an observed decrease in the number of subpopulations and number of individuals; and

c) Criteria C. A marked decline in the population size in the wild, which has been i) observed as ongoing.

B. Proponent

United States of America[*].

C. Supporting statement

1. Taxonomy

1.1 Class: Reptilia

1.2 Order: Testudines

1.3 Family: Testudinidae

1.4 Speciesr: *Geochelone platynota* (Blyth 1863)

1.5 Scientific synonyms: *Testudo platynota* (Blyth 1863)
Peltastes platynotus (Gray 1870)
Testudo platinota (Bourret 1941)
Geochelone platynota (Loveridge and Williams 1957)
Geochelone elegans platynota (Obst 1985)

1.6 Common names: English: Burmese Star Tortoise, Flatback Tortoise

[*] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

French: Tortue Étoilée De Birmanie
Spanish: Tortuga Estrellada De Burma

1.7 Code numbers: A-301.011.003.012

2. Overview

Geochelone platynota is a medium-sized tortoise endemic to the dry zone of central Burma (Myanmar). Historically the species has been collected for subsistence harvest purposes, and in recent years (mid-1990s), it has also been prized for the international food market and pet trade. It is currently considered close to extirpation in the wild. *G. platynota* has been included in CITES Appendix II since 1975 and in the IUCN Red List of Threatened Species as Critically Endangered since 1996. It has also been added to the list of the *Top 25 Endangered Tortoises and Freshwater Turtles at Extremely High Risk of Extinction* (Turtle Conservation Coalition 2011). Given that *G. platynota* may be ecologically extinct in the wild (Platt 1999 *as cited in*, Platt *et al*. 2000), future conservation efforts for this species will rely on implementing a successful long-term reintroduction program. The species' fate ultimately will depend on the development of anti-poaching measures at Burma's (Myanmar) protected sites before reintroductions are attempted and on the ability of authorities to control the illicit transborder trade of this species into neighboring countries. Also, education awareness programs need to be initiated so that the poaching trend can be reversed.

Based on the most recent survey information, the wild population and subpopulations of this species are extremely small, possibly extinct, and are characterized by a high vulnerability to overharvest, delayed sexual maturity, and high juvenile mortality. The wild population has an extremely restricted area of distribution, with occurrence of the species at very few, if any, locations. The only known viable populations in the year 2000 were rapidly decimated shortly thereafter, primarily due to collection.

This species is clearly affected by trade according to definition i) of this term in Resolution Conf. 9.24 (Rev. CoP15), Annex 5. Data from the UNEP-WCMC CITES Trade Database demonstrate that the species is in international trade, and given that there are no known individuals of this species in the wild, trade has had a detrimental impact on the status of the species.

3. Species characteristics

3.1 Distribution

Geochelone platynota is endemic to the dry zone of central Burma (Myanmar), but its natural distribution within this region is not well defined (Platt *et al*. 2011b).

3.2 Habitat

G. platynota inhabits the dry zone of central Burma (Myanmar) where it occurs in deciduous forests, thorn scrub, and pastures (Turtle Conservation Coalition 2011). The vegetative associations found in these dry zones are characterized by xerophytic and fire-resistant species with an understory of various grasses. *G. platynota* may also occur in grazed pastures, scrub and field ecotones, hedgerows, and agricultural fields in the dry zone. Tortoises have been known to shelter in bamboo thickets, dense scrub, undercut banks, and crevices among rocks (Platt *et al*. 2011b).

3.3 Biological characteristics

Very little is known about this species in the wild. Most activity takes place at dusk and dawn. The species is omnivorous, mostly consuming grasses and other plant material, but invertebrates, fruit, mosses, and fungi have also been found in feces. Most of the reproductive behavior and biology has been observed in captivity. Mating behavior has been observed from June to September, followed by egg-laying from October through February. Based on a limited sample size, the home range of males is somewhat larger than that of females. During cool and dry periods of the year, activity levels decline (Platt *et al*. 2011b).

3.4 Morphological characteristics

G. platynota is a medium-sized land tortoise with an oval shaped carapace flattened dorsally. The species is sexually dimorphic, with females larger than males and reaching a carapace length of at least 30 cm (Platt *et al*. 2003). The carapace is dark brown or black with six or fewer radiating stripes

extending from the yellow areola of each vertebral and pleural. Two-yellow stripes form a V-shaped pattern on each marginal. The head is moderate with a non-projecting snout and a weakly hooked tricuspid upper jaw. The skin of the head, limbs, and tail is yellowish. The anterior surface of the forelimbs is covered with large, pointed, rounded scales. The tail ends in a large horny scale. (Ernst and Barbour 1989).

3.5 Role of the species in its ecosystem

No information is available on the role of the species in the ecosystem.

4. Status and trends

4.1 Habitat trends

Although collection for trade is the main threat to the species, habitat destruction, fragmentation, and conversion of land to row crop agriculture threaten the integrity of *G. platynota* habitat and further exacerbate demographic problems (Platt *et al*. 2000, and Platt *et al*. 2011b). The dry zone is a densely populated agricultural landscape (Roberts *et al*. 1968, *as cited in*, Platt *et al* 2004), and both commercial and subsistence harvesting of *G. platynota* have been ubiquitous throughout the region (Platt *et al*. 2004). Suitable habitat still remains within the species' known habitat (Platt *et al*. 2011a) and within apparent suitable habitat where tortoises have not been found (Zug *et al*. 1998, *as cited in*, Platt *et al*. 2011b). Nevertheless, recent land use changes are affecting tortoise habitat, even within protected areas (Platt *et al*. 2011a).

4.2 Population size

The most current available information suggests that *G. platynota* is ecologically extinct in the wild, largely as the result of historic long-term subsistence harvesting and more recent (mid-1990s) over-collection to supply international food and pet markets. The only known viable populations in the year 2000 were rapidly decimated shortly thereafter, especially because of over-collection. Tortoises are taken with the aid of trained hunting dogs, a highly effective technique that leads to rapid decimation of local populations (Platt 1999 *as cited in*, Platt *et al*. 2000). One hunter near a wildlife sanctuary claimed to have taken about 300 *G. platynota* in 1999 (Platt *et al*. 2001a, *as cited in*, Platt *et al*. 2011b). Although recent surveys are lacking, available information suggests that few if any viable populations of *G. platynota* remain (Platt *et al*. 2011a, Platt *et al*. 2011b).

4.3 Population structure

No data are available on the sex ratio, age structure, growth rate, or other population parameters.

4.4 Population trends

Much of the areas where the species is known to occur have been depleted of its tortoise populations (Platt *et al*. 2011b). By 1999, it was reported that a *G. platynota* population within a protected area had dramatically declined (Platt 1999 *as cited in*, Platt *et al*. 2000), and by 2001 it had been driven to near extinction as a result of harvest (Platt *et al*. 2001, *as cited in*, Platt *et al*. 2003). In addition, the other two areas that harbored the only known viable *G. platynota* populations (Platt *et al*. 2003, Platt *et al*. 2011a) were rapidly decimated once collectors from outside the area arrived (Platt *et al*. 2011b). The most recent surveys within some of these areas did not record any individuals, and the available evidence now suggests that *G. platynota* may be ecologically extinct in the wild (Platt *et al*. 2011a&b, Turtle Conservation Coalition 2011, Horne *et al*. 2012). Platt *et al*. (2011a) also describe that three professional hunters last encountered star tortoises in the wild 3 to 4 years ago and have seen none since.

4.5 Geographic trends

During surveys conducted from 1999 to 2001 extant *G. platynota* wild populations were identified at three sites in Burma (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 Burma (Myanmar) primarily as a result of over-collection to supply international food and pet markets. 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 (Platt *et al*. 2011a&b, Turtle Conservation Coalition 2011, Horne *et al*. 2012).

5. Threats

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 (Platt *et al*. 2000, Platt *et al*. 2011). 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. Continued international commercial demand poses a serious impediment to reintroducing *G. platynota* into the wild and its eventual recovery (Platt *et al*. 2011b). Fragmentation and conversion of land to row crop agriculture also threaten the integrity of *G. platynota* habitat (Platt *et al*. 2011b). Even within protected areas, shifting cultivation, illegal tree-felling, and bamboo harvesting are rampant (Platt *et al*. 2011a), and it has also been suggested that uncontrolled wildfires pose a direct threat to tortoises (Platt *et al*. 2003, Platt *et al*. 2011b).

6. Utilization and trade

6.1 National utilization

Historically the species has been locally [Burma (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 (Turtles Conservation Coalition 2011). For example, Platt *et al*. (2004) collected 10 *G. platynota* carapaces that had been harvested and consumed by villagers. Recently, wildlife traders have stopped making periodic visits to *G. platynota* areas 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 the species. Wildlife traders are said to pay about USD 800 for an adult star tortoise (Platt *et al*. 2011b).

6.2 Legal trade

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. Data for 2011 are not considered because they may be incomplete; therefore, a total of 19 years of data are being presented. All *G. platynota* imports for the mentioned years account for 4,620 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.

6.3 Parts and derivatives in trade

Although there is an alleged medicinal benefit from the use of *G. platynota* (Turtle Conservation Coalition 2012), there is no particular information available on which parts or derivatives are used from this species. Platt *et al*. (2000) describes that in remote regions of Burma (Myanmar), turtles (not specific to *G. platynota*) are consumed locally, and only the plastra are sold to buyers.

6.4 Illegal trade

Large numbers of *G. platynota* have been collected opportunistically, and exploitation was accelerated by commercial demands of the pet trade. *G. platynota* has been observed in markets in southern China, but little quantitative illegal trade data are available. (Platt *et al*. 2000). Juveniles and small adults are in especially high demand for the pet trade, while some larger adults enter the food or medicinal markets (Das 1997, Platt *et al*. 2001, *as cited in* Platt *et al*. 2011b). According to Platt *et al*. (2000), some people have received prison sentences of up to two years for violations of Burma (Myanmar) law regarding illegal turtle trade (not specific to *G. platynota*). However, the trade is so extensive that enforcement measures do not appear to be having a significant effect. *G. platynota* is highly prized in the international pet trade (Turtle Conservation Coalition 2012), and the demand for this species in the high-end pet trade has pushed *G. platynota* to near extinction (Horne *et al*. 2012). As recent as 2010 and 2011, hundreds of *G. platynota* have been found in illegal turtle shipments (Zwartepoorte 2011a&b, FREELAND 2011). Captive groups of *G. platynota* were started using a

combination of tortoises confiscated from the illegal trade and others locally collected. Theft of captive animals has occurred and remains a constant concern (Platt *et al*. 2011b).

6.5 Actual or potential trade impacts

As detailed in previous sections, collection of animals for the international pet trade has decimated *G. platynota* populations. 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 (Platt *et al*. 2011b). Further legal protection of the species is an important step towards saving the species from absolute extinction in the wild and to provide increased protection under which conservation efforts can progress to re-establish the species in the wild. In addition, turtle life history traits of delayed sexual maturity and high juvenile mortality and an extremely limited distribution, make *G. platynota* particularly vulnerable when it comes to removing even a few individuals from the population.

7. Legal instruments

7.1 National

While subsistence harvest of *G. platynota* is permitted, commercial harvest is not. Trade of this species is illegal under Burma (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 (Platt *et al*. 2000). 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 (Platt *et al*. 2000, Platt *et al*. 2011b).

7.2 International

G. platynota has been included in Appendix II of CITES since 1975.

8. Species management

8.1 Management measures

Given that *G. platynota* is believed to be ecologically extinct in the wild, future conservation efforts for this species will rely on implementing a successful long-term reintroduction program (Platt *et al*. 2011b). Platt *et al*. (2011a) provided an assessment of reintroduction sites and reintroduction protocols within protected wildlife sanctuaries and also provided recommendations for improving the assurance colonies. It is essential to develop anti-poaching measures at these protected sites before reintroductions are attempted (Platt *et al*. 2011b). Horne *et al*. (2012) describes approaches for reintroductions such as community-based planning that institutes economic incentives to the people living within the tortoise habitat, which may be the best way to prevent poaching of reintroduced juveniles. Education awareness programs need to be initiated so that the poaching trend can be reversed (Platt *et al*. 2003, Platt *et al*. 2011b, Turtle Conservation Coalition 2011).

In February 2011, the Conservation of Asian Tortoises and Freshwater Turtles Workshop was held and resulted in overall and taxon-specific recommendations for Critically Endangered Species (Horne *et al*. 2012). It was discussed that most of Asia's turtle species, including the Burmese star tortoise, lack adequate studies for effective conservation actions to be properly planned and managed, especially for such species that are heavily collected. Recommendations also included habitat conservation projects within agriculturally impacted areas and intact suitable habitat, stricter legal protection and enforcement, and embargo of all international export.

8.2 Population monitoring

There is currently no research involving wild populations of *G. platynota*, although future reintroduction plans will provide for monitoring of released animals (Platt *et al*. 2011b). The most recent surveys for *G. platynota* are discussed by Platt *et al*. (2011a), in which no tortoises were found within two wildlife sanctuaries.

8.3 Control measures

8.3.1 International

Since the time of its inclusion in Appendix II of CITES (1975), export of the species has required issuance of export permits by the exporting country prior to export. Burma (Myanmar) became a CITES signatory in June 1997 (Platt *et al*. 2000). Stricter regulation of trade, including effective enforcement to combat illegal trade in destination countries, is an essential supporting measure to reduce poaching, and the species' fate ultimately depends on the ability of authorities to control the illicit transborder trade of wildlife into neighboring countries (Platt *et al*. 2011b, Horne *et al*. 2012).

8.3.2 Domestic

Turtle 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 (Platt *et al*. 2000, Platt *et al*. 2011b). Although all wildlife is afforded complete protection in wildlife sanctuaries and national parks in Burma (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. (Platt *et al*. 2011b).

8.4 Captive breeding and artificial propagation

With four government-run facilities and one private-run facility producing hundreds of hatchlings per year, captive breeding and headstarting may be the last option to restoring *G. platynota* to its functional role in the ecosystem (Horne *et al*. 2012). 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 (Platt *et al*. 2011a).

8.5 Habitat conservation

A 2001 proposal by the Burma (Myanmar) Forest Department to designate a National Star Tortoise Sanctuary was apparently abandoned after the resident *G. platynota* population was extirpated by commercial collection, as has happened in other existing wildlife sanctuaries as well. The National Star Tortoise Sanctuary should be re-evaluated because it is believed that with adequate enforcement, reintroductions in this area are likely to succeed. (Platt *et al*. 2011b). Besides developing anti-poaching measures at protected sites, wildlife sanctuary management plans should also consider and manage for habitat modification factors such as livestock grazing, anthropogenic burning, and tree-cutting (Platt *et al*. 2003).

8.6 Safeguards

N/A

9. Information on 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*. (Turtle Conservation Coalition 2011). 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 (Bonin *et al*. 2006).

10. Consultations

The United States of America sent a consultation letter to Burma (Myanmar); however, we did not receive a response.

11. Additional remarks

G. platynota was recommended for a CITES status change from Appendix II to Appendix I by Horne *et al*. (2012). The species is included as Critically Endangered in the IUCN Red List of Threatened Species due to over-harvesting for subsistence and commercial purposes within its very limited distribution.

International Workshops and Congresses include:

- An international workshop on the *Conservation of Asian Tortoises and Freshwater Turtles: Setting Priorities for the Next Ten Years* was held in Singapore in February 2011. Nearly 70 delegates from 17 countries, including 14 Asian nations, attended. This was a follow up to the Asian turtle meetings convened in Phnom Penh, Cambodia, in 1999, to discuss the plight of turtles since that initial effort. Significant strides have been made since the 1999 workshop; however, the trade in wild-caught turtles and turtle products (e.g., meat, shell, eggs, and cartilage) is still the number one problem facing global turtle populations. Among the recommendations of the workshop were updates to the CITES statuses of turtles. Thirteen species were recommended for inclusion in Appendix II, and 25 species were recommended for transfer from Appendix II to I.

- The *IUCN 5th World Conservation Congress* held in Korea in September 2012 called on CITES parties to "Evaluate that turtle species subject to international trade are appropriately included in the CITES Appendices" with particular emphasis on making non-detriment findings, ensuring that stricter domestic measures safeguard turtles, and that laws are enforced.

12. References

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