

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

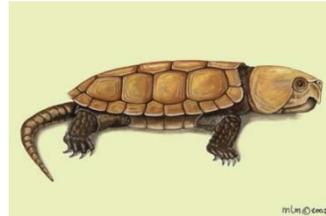


Sixteenth Meeting of the Conference of the Parties
Bangkok (Thailand), March 3-14, 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENTS TO APPENDICES I AND II

A. Proposal

Transfer of the Family Platysternidae from Appendix II to Appendix I in accordance with Article II paragraph 1 of the Convention and satisfying Criteria B and C, Annex 1 of Resolution Conf. 9.24 (Rev CoP15).



B. Proponent

United States of America and Viet Nam*

C. Supporting statement

1. Taxonomy

1.1 Class: Reptilia

1.2 Order: Testudines

1.3 Family: Platysternidae

1.4 Species: *Platysternon megacephalum* (Gray 1831)
Platysternon megacephalum megacephalum (Gray 1831)
Platysternon megacephalum peguense (Gray 19870)
Platysternon megacephalum shiui (Ernst and McCord 1987)

1.5 Scientific synonyms: *Platysternum megacephalum* (Boulenger 1889)
Platysternon platycephalum (Mertens 1959) (ex errore)
Platysternum megalcephalum (Stanek 1959) (ex errore)

* 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.

Platysternon macrocephalus (Agassiz 1860)
Platysternon megacephalum tristernalis (Schleich and Gruber 1984)
Platysternon megacephalum vogeli (Wermuth 1969)

1.6 Common names: English: Big-headed turtle
 Spanish: Tortuga cabezon
 French: Grande tortue dirige
 German: Grosskopfschildkröte

1.7 Code Numbers: NA

Resolution Conf. 9.24 (Rev.CoP15), Annex 3, section on Higher Taxa, states that 'If all species of a higher taxon are included in Appendix I or II, they should be included under the name of the higher taxon'. Accordingly, because the species *Platysternon megacephalum* is the only living species of the Family Platysternidae (Fritz & Havas, 2007), this proposal seeks to transfer the Family Platysternidae to Appendix I.

2. Overview

Turtles are the world's most endangered vertebrates with almost half being categorized on the IUCN Red List of Threatened Species as critically endangered, endangered, or vulnerable. They are at high risk of extinction because of their combination of biological life history traits. Harvest as well as habitat degradation and loss are their greatest threats (TCC, 2011).

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The plight of Asian turtles has been a focus of CITES since CoP10 (1997) when *Callagur (~Batagur) borneoensis* was included in Appendix II. Subsequent CITES Actions for Asian turtles include:

- 1999 - Phnom Penh workshop (*Conservation and Trade of Freshwater Turtles and Tortoises in Asia*) participants recommend listing all turtle species in CITES Appendices because of the non-discriminatory nature of food trade (switching species as they become depleted or rare) and for look-alike reasons;
- 2000 –9 species listed in App. II and adoption of Res. Conf. 11.9;
- 2002 - CITES Kunming workshop (*Technical workshop on conservation of and trade in freshwater turtles and tortoises*) participants recommend all Asian Turtles be included in the CITES appendices (AC18 Inf. 12);
- 2003 - AC19 forms turtle working group and adopts its recommendations, including the Kunming workshop recommendation that Parties prepare listing proposals for all unlisted Asian species to App. II (and until that happens, place them on App. III);
- 2004 - CoP adopts the AC Chair's report, including Asian species listing recommendations from Kunming workshop.
 - CoP13 adopts Decisions 13.36 and 13.37 directed to the Secretariat regarding reporting and liaison with the WCO.
 - *Pyxis arachnoides* uplisted to App. I.
 - Five Asian species added to App. II.
 - Revisions to Resolution Conf. 11.9 adopted.

- 17 Asian species added to App. III (China);
- 2005 - 1 species removed from App. III (China);
- 2006 - 13 North American species added to App. III (U.S.);
- 2007- Decs. 14.126-14.129 directed to the Secretariat, Parties and AC adopted by CoP. Includes direction to the Secretariat to commission the IUCN trade study review on the implementation of Conf. 11.9 (Rev. CoP13);
- 2010 - CoP adopts Decs. 15.79 - 15.83 directed to the AC, SC and the Parties; Decisions covered the IUCN trade study, implementation of Conf. 11.9 (Rev. CoP13), and Customs codes;
- 2011 - AC25 establishes turtle working group and adopts its recommendations based on IUCN trade study;
 - SC61 forms turtle working group to consider IUCN trade study and AC recommendations;
- 2012 - AC26 adopts additional recommendations and draft Decisions;
 - SC62 endorses AC recommendations and adopts its own, including a number of draft Decisions for CoP16 consideration.

The big-headed turtle (*Platysternon megacephalum*), endemic to Southeast Asia, is the only species (monotypic) in the family Platysternidae. The species occurs in unpolluted clear cascading mountain streams within closed-canopy forested areas and also within the bordering riparian areas. The species was once very common in some regions but has become rare and appears to be on the path to extinction (Bonin et al, 2006). Its populations face serious threats from commercial harvest of turtles for human consumption, and from habitat loss. It previously was common in Chinese food markets, but now only low numbers of individuals are found in markets, indicating that wild populations have declined dramatically?. The species continues to garner high prices in the international pet trade and in food markets. Furthermore, it is believed that most if not all of the specimens found in trade have been collected from the wild, as *P. megacephalum* does not breed readily in captivity. The species is currently listed in Appendix II of CITES and is categorized as Endangered by the IUCN. A draft revision of the IUCN Red List, currently in progress, reclassifies the species as Critically Endangered. China (the primary range State), Thailand, and Viet Nam have listed the species as endangered under their own countries' Red Data Book of Endangered Animals. Due to the relatively low annual reproductive potential and the difficulty in maintaining *P. megacephalum* in captivity, conservation of this species cannot rely on captive breeding to supplement wild populations.

Platysternidae (consisting of one species - *Platysternon megacephalum* [draft CR]) qualifies for transfer to Appendix I under the terms of Resolution Conf. 9.24, Annex 1. Criterion B i, iii, iv; and C i, ii.

P. megacephalum populations face serious threats from commercial harvest of turtles for human consumption and, there has been a recent documented rise in the number of hatchlings for sale in pet markets, because of their vivid colors (Horne et al, 2012).

Platysternidae meets Criterion B for inclusion in CITES Appendix I, because its wild populations have restricted areas of distribution. *P. megacephalum* is a habitat specialist that needs un-polluted mountain (i.e. at high altitudes) streams within closed-canopy forested areas. This requirement has led to occurrence in very few areas. Deforestation and the construction of small hydro-electric projects, and the liming of streams within the species range, causes habitat destruction and degradation (Lau and Shi 2000). Populations may be small because of limited habitat (Seang Tana et al. 2000). Habitat requirements/parameters also strongly affect this species ability to reproduce since it does not breed readily in captivity (Horne et al, 2012).

Platysternidae also meets Criterion C for inclusion in CITES Appendix I, as it has undergone marked declines in their population sizes in the wild which can be inferred based on their inclusion in the IUCN Red Data List of Threatened Species as Endanger (EN) with a reclassification of Critically Endangered in the draft revision currently in progress. Field surveys have revealed low abundances in southern China (Gong et al. 2006b, as cited in Shen et al. 2010). A factor that makes *P. megacephalum* vulnerable to exploitation is that it does not breed readily in captivity, and therefore it is believed that the majority of the specimens found in the trade have been collected from the wild (Shi et al. 2007, Horne et al. 2012).

3. Species characteristics

3.1 Distribution

Platysternon megacephalum is found in Cambodia, China, Hong Kong Special Administrative Region of China (Hong Kong), Laos People's Democratic Republic (Laos), northern Burma (Myanmar), northern and western Thailand, and northern Viet Nam.

Cambodia: During recent patrols in the mountainous northeast two big-headed turtles were discovered during surveys in Virachey National Park in Ratanakiri Province; the species is unlikely to occur elsewhere in the country (Emmett et al. 2007). **China (the primary range State):** The species is widespread in central and southern China, including Yunnan, Guizhou, Anhui, Jiangsu, Zhejiang, Jiangxi, Hunan, Fujian, Guangdong, Hainan, and Guangxi Provinces (Lau and Shi 2000). **Hong Kong:** The species is fairly widespread in the central and eastern part of the New Territories and also occurs at Sunset Peak on Lantau Island (Lau et al. 2000). **Laos:** The species likely occurs in appropriate stream habitats throughout Lao PDR, although probably in quite reduced populations (Stuart and Timmins, 2000). **Burma (Myanmar):** The species is reported to occur in the hill streams of the Sittang and Salween River drainages (van Dijk, 1993 as cited in, Platt et al., 2000). **Thailand:** The species occurs in the mountains of northern, northwestern, and northeastern areas (van Dijk and Palasuwan, 2000). Pipatsawasdikul et al. (2010) recently conducted intensive surveys throughout Thailand with 22 new localities discovered, expanding its known range in this country. **Viet Nam:** The turtle occurs in northern and central Viet Nam (Hendrie, 2000).

3.2 Habitat

The big-headed turtle inhabits unpolluted clear cool (water temperatures ranging between 12-28°C) rocky mountain streams within forested areas and also within the bordering riparian habitats. These streams are characterized by exposed bedrock, areas of accumulated large boulders, small waterfalls and stream pools (Ernst and Barbour 1989, Shen et al. 2010). Streams in Thailand inhabited by *Platysternon* may dry out for several weeks at the height of the dry season (monsoon climate area) and local park rangers asserted that *Platysternon* migrate overland in search of streams still containing water (van Dijk 2007). Shen et al. (2010) recorded occasional terrestrial behavior, with a maximum of 5.7 meters distance from the stream, and suggest that the connectivity of the streams where the species occurs may provide critical movement and dispersal corridors.

3.3 Biological characteristics

Platysternon is primarily nocturnal, spending much of the day burrowed in gravel or in between rocks. It feeds mostly on mollusks, crustaceans, fallen insects and other invertebrates and fish, as well as fruits and other plant materials (Cheung, 2010), sometimes leaving the stream to scour the banks for food (Ernst and Barbour 1989; Bonin et al. 2006). When disturbed it leaves a foul smelling musk. Reproductive characteristics are not well known but based on captive observations it generally lays up to four eggs per clutch (Weissinger, 1987; Gad, 2007).

3.4 Morphological characteristics

Platysternon megacephalum is considered a medium-sized turtle (up to 18 cm carapace) with a head so large that it cannot be withdrawn into the shell for protection (Ernst and Barbour 1989). The head is triangular and flattened above, with powerful jaws and a hooked beak and is yellowish or olive-brown in color. The plastron is flat and without a hinge, and is attached to the carapace by cartilaginous bridges. It has a scaly tail that is almost equal in length to the carapace (Bonin et al. 2006). *Platysternon megacephalum* relies more on its powerful legs with strong claws and long, agile tail to move over the rocky stream habitat and rarely swims (Druzisky and Brainerd 2001, as cited in Shen et al. 2010), with a physiology better adapted for walking and climbing (Bonin et al. 2006).

3.5 Role of the species in its ecosystem

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

4. Status and Trends

4.1 Habitat trends

Cambodia: The species was recently confirmed within suitable protected montane habitats, and this constitutes a significant extension of the southernmost limit of the species' overall range (Emmett et al. 2007). **China (the primary range State):** Lau and Shi (2000) suggest that there are still many suitable streams for the species. However, habitat degradation is a serious problem in China, including expansion of environmental pollution into rural areas and reduction of wetland areas (Zhou and Jiang 2008). **Hong Kong:** Lau et al. (2000) reports that there are many suitable forest streams for the species to live in. **Laos:** The species continues to survive in appropriate habitat, although it is unknown to what extent (Stuart and Timmins 2000). **Burma (Myanmar):** There is no information available regarding the habitat trends for the species. **Thailand:** Habitat availability is considered substantial, and most areas of occurrence are in protected areas (van Dijk and Palasuwan, 2000) and in remote areas that are difficult to access (Pipatsawasdikul et al. 2010). **Viet Nam:** The species is limited to the remaining natural forest, parks, and protected areas, as the country has sustained significant loss of forest since 1945 (Hendrie 2000).

4.2 Population Size

Limited population data is available due to lack of intensive studies of *P. megacephalum*.

Cambodia: Anecdotal information from the local Ministry of Environment rangers suggests that the species is fairly abundant in suitable riparian habitats (Emmett et al. 2007). Populations may be small because of limited habitat (Seang Tana et al. 2000). **China:** The species is considered endangered and is now rarely seen in the wild (Lau and Shi 2000). Field surveys have revealed low abundances in southern China (Gong et al. 2006b, as cited in Shen et al. 2010). More recently, the species was commonly found in the Guangdong Province, being collected by local hunters and residents almost entirely from nature reserves (Gong et al. 2009a).

Hong Kong: Although there is no current data available, Lau et al. (2000) reported that the species was regularly recorded in some of the stream systems in central New Territories indicating that fairly stable populations existed. **Laos:** Populations of the species are probably quite reduced (Stuart and Timmins 2000). **Burma (Myanmar):** No information available on the species status (Platt et al. 2000). **Thailand:** In 2000, the species was reported as uncommon to locally fairly common by van Dijk and Palasuwan (2000). The most recent published surveys are from December 2006 to April 2009, in which *P. megacephalum* distribution was assessed, but the survey results do not inform about the size or trend of the populations (Pipatsawasdikul et al. 2010). However, the authors suggest that a few large populations may be present in remote areas that are difficult to access or near villages where turtles are not regularly sold or eaten (Pipatsawasdikul et al. 2010). **Viet Nam:** In 2000, the species status was unknown (Hendrie

2000). The population size is still unknown, but the species is considered rare (Viet Nam CITES 2012).

4.3 Population Structure

No specific data is available on sex ratio, age structure, growth rate, or other population parameters. The species is thought to reach maturity age between 5 to 9 years old (Zhou and Jiang 2008) and to have a relatively low annual reproductive potential (Horne et al. 2012).

4.4 Population Trends

Given that there is scarce population size information (see previous Section 4.2) on *P. megacephalum*, the same holds true for the species population trend. However, general observations suggest a declining trend. Furthermore, it is believed that the majority of the specimens found in trade have been collected from the wild, as *P. megacephalum* does not breed readily in captivity (Shi et al. 2007, Horne et al. 2012).

Cambodia: No information is available on population trends for this species. **China:** Previously common in the food markets, but now only low numbers of individuals turn up in the food market, indicating that wild populations have drastically declined (Lau and Shi 2000). **Hong Kong:** Published population trend data is lacking (Lau et al. 2000). **Laos:** Wildlife inventories have been limited to short-term studies and the scarcity of turtles recorded during those surveys suggests that turtle populations have declined. There was also a perception among local villagers that suggests declines in turtle populations in the 1990s (Stuart and Timmins 2000). **Burma (Myanmar):** Although there is a lack of information for this species, the available evidence for the status of all turtle populations in Burma (Myanmar) suggests declines may have occurred as a result of over-harvesting for both local consumption and to meet the demands of export markets (Platt et al. 2000). **Thailand:** In 2000, the species population trend was reported as unknown and presumed stable where not exploited (van Dijk and Palasuwan 2000). Informal interviews with local villagers suggest that the species is less common now than in the past due to hunting and are likely declining in numbers (Pipatsawasdikul et al. 2010). **Viet Nam:** Unknown. As with other species in Viet Nam, natural populations of *P. megacephalum* are unlikely to sustain present levels of collection. Turtle hunters now report a significant decline in the number of turtles found. (Hendrie 2000). Over a 50% population decline is estimated in recent years (10 years) due to the over harvesting (Viet Nam CITES 2012).

4.5 Geographic Trends

Several new localities of big-headed turtles in Cambodia and Thailand have been identified, but their specific habitat needs of high altitude rivers greatly reduce their potential for geographic expansion. (Emmett et al. 2007, Pipatsawasdikul et al. 2010).

5 Threats

Currently, international trade is regarded as the greatest threat to Asian turtles (van Dijk, 2000; Cheung & Dudgeon, 2006, Gong et al. 2009b). *P. megacephalum* populations face serious threats from commercial harvest of turtles, human consumption and habitat loss (Pipatsawasdikul et al. 2010).

Cambodia: Local subsistence use of turtles is widespread and probably not species specific (Seang Tana et al. 2000). **China:** Commercial exploitation of freshwater turtles and tortoises has increased significantly since the 1990s (Zhou and Jiang 2008). Main threat is over-collecting for the food trade. Deforestation and the construction of small hydro-electric plants, and the liming of streams within the species range, causes habitat destruction and degradation. (Lau and Shi 2000). Turtle farming operations represent a major threat because of their demand for wild-collected specimens as parental stock (Shi et al 2007). **Hong Kong:** The species has been recorded as being used both as food and

as pets. Illegal trapping and collecting targeted to other species may also remove a small number of individuals from the wild. Low-altitude streams outside protected parks may be affected by development projects. (Lau et al. 2000). **Laos:** All species of turtles are threatened by hunting for local subsistence, domestic consumption, and especially for international trade to Viet Nam and China (Stuart and Timmins 2000). **Burma (Myanmar):** All turtle species should be considered threatened by probable unsustainable levels of harvest (Platt et al. 2000). In 2008, a large shipment of 99 *P. megacephalum* was intercepted and believed to have originated from the west of the country (ATCN 2008). **Thailand:** Besides habitat degradation, the species is mostly threatened by collection for consumption in relation to traditional Chinese medicine, for pet trade and *ex situ* captive breeding programs (van Dijk and Palasuwan 2000). More recently, the species was documented to still be threatened by continued poaching for local consumption and trade (Pipatsawasdikul et al. 2010). **Viet Nam:** The species is threatened by collection and habitat loss. Level of trade threatens all turtle species in Vietnam. (Hendrie 2000).

China, Thailand, and Viet Nam (2007) have all listed the species as endangered in their own countries Red Data Book of Endangered Animals (Zhao 1998, Nabhitabhata and Chan-ard, 2005, Viet Nam CITES 2012, respectively). This species' life history traits of delayed sexual maturity, adult longevity, and high juvenile mortality make it particularly vulnerable when it comes to removing even a modest percentage of adults from the population. Globally, *Platysternon megacephalum* was assessed as Endangered in the IUCN Red List in 2000, and a current update of the Red List reclassifies the species as Critically Endangered (TTWG, 2011; Horne et al., 2012).

6 Utilization and Trade

6.1 National utilization

Cambodia: There is a domestic turtle trade which is used for meat, eggs, medicine, decoration, pets, and religious release. However, the domestic pet trade is considered minor when compared to the much larger international trade (Seang Tana et al. 2000). Emmett et al. (2007) explains that there have been no records of the species in trade within the country; however, it is likely that any turtles collected are taken directly to markets in Viet Nam rather than to Cambodian markets. **China:** With the exception of *Rafetus swinhoei*, all turtle species are exploited whenever they are found and *P. megacephalum* has been seen for sale in the food markets of south China. Due to the high market value that live turtles have commanded in recent years, it is unlikely they are being utilized by villagers for subsistence consumption, and instead are being sold to restaurants or food markets in the big cities (Lau and Shi 2000).

Hong Kong: Trade in turtle and turtle parts is widespread, but the majority of the turtles in the food and pet trades are considered to originate from outside Hong Kong. Nonetheless, illegal turtle traps have been found inside and outside protected areas as some local harvest is taking place (Lau et al. 2000). **Laos:** As of 1999, no data were available on volumes of domestic turtle trade, as no monitoring studies had been conducted (Stuart and Timmins 2000). The authors argue that there is substantial harvest for local subsistence use and domestic trade in Laos. **Burma (Myanmar):** It is likely that all species of turtles are exploited for either food or local and export markets, although trade records for many species are lacking, including *P. megacephalum*, where a single individual was photographed in 1998 at a market in central Burma (Myanmar) (Platt et al. 2000). **Thailand:** National utilization was previously described as a modest collection for the pet trade and captive breeding attempts (van Dijk and Palasuwan, 2000). More recent information indicates the species was regularly consumed and occasionally traded between villagers or sold at local markets, demonstrating the continued poaching of this species for local consumption and trade (Pipatsawasdikul et al. 2010). **Viet Nam:** Subsistence use of turtles has probably been reduced, as regional surveys demonstrate that nearly all turtles that are collected are sold to traders, rather than consumed locally. The species has been described as being occasionally observed in the Hanoi pet market. (Hendrie 2000).

6.2 Legal trade

According to the CITES Trade Database, there are records for *P. megacephalum* from 2004 to 2011. Data for 2011 are not considered because they may be incomplete, therefore a total of 7 years of trade data are being presented. All *P. megacephalum* imports for the mentioned years account for 1,691 animals mostly for commercial purposes (44%) followed by circus/traveling exhibits (27.8%) and scientific (22%) purposes. Almost all of the imports were of pre-Convention specimens (61%) and wild sources (33%). For all (re-) exports, there were a total of 453 animals mostly for commercial purposes (44%) followed by circus/travel exhibits (25%) and scientific (18.8%). Almost all of the (re-) exports were of pre-Convention specimens (75%) and wild sources (18.8%). The majority of all the trade consisted of live animals followed by a few specimens for scientific purposes.

Cambodia: In 2007, it was reported that there are no records of the *P. megacephalum* in trade within the country. Any *P. megacephalum* that may be occasionally collected will probably go directly across the border to markets in Viet Nam rather than remaining in Cambodia. (Emmett et al. 2007). Legal international trade is run through KAMFIMEX, a government export agency for aquatic products. Trade is restricted by an annual quota and by size of individual turtles, which must be larger than 1 kg to be legally exported. China Group Company Ltd. under KAMIFEX's license carried out the first legal international export of live reptiles in 1998-1999 with a shipment of 200 tons, in which turtles were estimated to comprise 50%. (Seang Tana 2000). **China:** Because of the lack of trade statistics, and the trade's magnitude and the availability of multiple routes, control and monitoring of the international trade are far from adequate (Lau and Shi 2000). In addition, China is the largest consumer of turtles in the world and international trade has been cited as the greatest threat to Asian turtles that has led to unsustainable over-collection (Gong et al. 2009b). *P. megacephalum* comprised 9% of all live turtles imported into China between 1998 and 2002 (pre CITES listing), and the species is considered to be traded in significant numbers (Zhou and Jiang 2008). Shen et al. (2010) purchased a total of 16 recently wild-caught adult *P. megacephalum* from a turtle dealer in China who would not disclose their origin. **Hong Kong:** With over 9 million live chelonians imported in 1998 alone, Hong Kong is considered a major importer and re-exporter of live turtles for the food and pet trades *P. megacephalum* was recorded as being used for both food and pets, and was consistently recorded in the food trade (Lau et al., 2000). **Laos:** In 2000, it was reported that no data were available on domestic or international trade volumes of turtles, as no trade monitoring studies have been conducted. Trade records of turtles come from brief visits to markets and villages, in which *P. megacephalum* has been found. (Stuart and Timmins 2000). **Burma (Myanmar):** There appears to be little legal international trade from Burma (Myanmar); most international trade is illegal (Platt et al. 2000). **Thailand:** There is no legal international trade in this species from Thailand, because the species is specifically protected from exploitation under the WARPA law (Wild Animals Reservation and Protection Act B. E. 2535) (van Dijk and Palasuwan, 2000) (van Dijk and Palasuwan 2000). (Pipatsawasdikul et al. 2010). **Viet Nam:** International trade in certain turtle species is permitted under certain conditions, which includes licensing of exports. Vietnames CITES Management Authority records indicate that 50 *P. megacephalum* were legally exported between 1994 and 1999 (Hendrie, 2000).

6.3 Parts and derivatives in trade

It is unknown if this species is traded for specific parts and derivatives, and its trade is probably entirely the whole animal for the pet and food markets. The species has been cited by formal or official medical dictionary as curing several kinds of diseases (Zhou and Jiang 2008).

6.4 Illegal trade

P. megacephalum are currently garnering high prices for trade in both the pet market (juveniles) and in the food market (adults), in which hatchlings now command higher prices than adults due to their bright vivid colors (Horne et al. 2012).

Cambodia: In 2000, illegal international trade of Cambodian turtles to Viet Nam was described as being much larger than the legal international trade. Little information exists on illegal trade of turtles to Thailand, although it is presumed to be much less significant than the trade to Viet Nam (Seang Tana 2000). **China:** Many CITES-listed species have been observed in south China food markets and are likely that these were imported into China illegally, particularly Appendix-I species (Lau and Shi 2000). Although many turtle species are protected under CITES and the China Wild Animals Protection Law, they are still commonly traded in pet and food markets in China (Lau et al., 1996; Lau & Shi, 2000; Shi et al., 2002; Wang et al., 2005; Cheung & Dudgeon, 2006; Gong et al., 2007, as cited in Gong et al. 2009). In addition, Gong et al. (2009) speculate that most of the CITES I- and II- listed species found in the largest Chinese market were wild-caught, including *P. megacephalum*. Many non-CITES species in Chinese food markets have likely also been imported illegally, pointing to the documented illegal exports from other countries such as Burma (Myanmar) and Viet Nam. The main factors leading to the illegal trade in turtles were a cultural tradition of turtle use, lack of conservation education, incentive for financial rewards, and insufficient law enforcement (Gong et al. 2006, as cited in Zhou and Jiang 2008).

Hong Kong: Market surveys have documented CITES listed species without the required possession license in markets (Chan, in press, cited in Lau et al. 2000). **Laos:** Other than the fact that illegal trade does probably occur as for other countries, there is no specific information available for illegal trade on this species from Laos. Stuart and Timmins (2000) present a photo depicting a large sack of *P. megacephalum* being transported by a cross border Viet Nam trader coming from a Lao village in a conservation area. **Burma (Myanmar):** The majority of turtles collected in Burma (Myanmar) are destined for illegal export markets (Platt et al. 2000). The existence of a large illegal turtle trade from Burma (Myanmar) into China has been suspected for a long time (Jenkins, 1995 cited in Platt et al. 2000). Estimates of numbers traded into China are not available, but the large number of Burma (Myanmar) endemics found in Chinese markets in recent years suggests that the trade is extensive (Kuchling 1995 cited in Platt et al. 2000). Besides being totally protected under Burma (Myanmar) law, 1 live *P. megacephalum* and 5 carapaces were reported from the Mong La market in February 2006 (Shepherd and Nijman 2007). In 2008, a large shipment of 99 *P. megacephalum* was intercepted and believed to have originated from the west of the country (ATCN 2008). As recent as 2010, TRAFFIC (2012) reported seizures of 35 *P. megacephalum* in Burma (Myanmar). **Thailand:** The magnitude of illegal trade from Thailand is unknown, but the potential for collection to supply the traditional Chinese medicine demand to the north is undeniable (van Dijk and Palasuwan, 2000). Anecdotal evidence via trade in local markets, suggests the *P. megacephalum* is regularly traded between villagers for consumption. Trade persists even though markets are occasionally raided and turtles confiscated. For example, for 2007-2008, local police seized 81 *P. megacephalum*. (Pipatsawasdikul et. al, 2010). **Viet Nam:** In northern Viet Nam this species has been relatively common in seizures of illegal wildlife shipments along ground transportation routes, particularly during the spring and early summer months (Hendrie, 2000). TRAFFIC (2012) reports seizures of *P. megacephalum* in Viet Nam in 1998 and 2004 (4 kg). In the period 2006-2011, 73 specimens were seized by law enforcement agencies and transferred to the Turtle Conservation Centre based in Cuc Phuong National Park. Additionally several illegal transportation cases of Big head turtles were investigated in Hanoi in 2012 and other provinces (Viet Nam CITES 2012).

6.5 Actual or potential trade impacts

The trade in wild caught turtles and turtle products is still the number one problem facing global turtle populations. *Platysternon megacephalum* is not the exception and it is believed that the majority of the specimens found in the trade market have been collected from the wild, as the species does not breed readily in captivity and pet trade has increased because of its brightly colored juveniles (Shi et al. 2007, Horne et al. 2012). For example, Shen et al. (2010) purchased for their study a total of 16 recently wild-caught adult *P. megacephalum* from a turtle dealer in China. Potential trade impacts for the species have been described as potentially severe, given the limited size of individual populations and the difficulty to recolonize depleted

areas (van Dijk and Palasuwan 2000). Trade impacts will compromise the viability of surviving populations.

7. Legal Instruments

7.1 National

Previous details of the national legal instruments for all range countries except Cambodia, were discussed in the species' CoP12 proposal 20 for inclusion in Appendix II (CITES 2002).

Cambodia: Law No. 33 (Department of Fisheries) is the main law on use of aquatic animals and Law No. 35 (Department of Forestry) is the main law on use of land animals. Joint Declaration (Ministries of Agriculture and Environment) No. 1563 states that wild animals cannot be hunted with traps, explosive materials, or poison, nor can wild animals or their products be sold, commercialized, exploited, or transported, nor can wild animals or their products be served in restaurants. Government Decision 01 (Department of Forestry) aims to end illegal trade in land animals, while Government Decision 02 (Department of Fisheries) aims to end illegal trade in aquatic animals. Declaration No 359 protects “nationally threatened” wild animal species. (Seang Tana et al., 2000). As of 12 August 2009, *P. megacephalum* is not included in the sub-degree list called Identification of Threatened Fisheries Species and its Production (sub-degree 123 A.N.Kr.B.K.)(van Dijk 2007). **China:** Since *P. megacephalum* is currently listed under CITES Appendix II, the Wild Animals Protection Law automatically regards the species as a national key protected species (Zhou and Jiang 2008). However, it is listed under a lower level of domestic legislation under the list of *National Protected Terrestrial Wild Animals that are Beneficial, or with Important Economic and Scientific Research Value* published by the State Forestry Administration in 2000. More protection is provided by both of the following: Notice of Strengthening the Live Reptile Import and Export Management (China CITES Authority No.[2000] 51); Notice of Strengthening the Trade Management on Turtles and Tortoises; Notice of Suspending Import of Some Turtles, directing a stop to issuing import permits for any species of turtles and tortoises with carapace less than 10 cm long. In 2003, because of the spread of SARS, the State Forestry Administration and 11 other governmental authorities issued a notification entitled Strictly Prohibit Illegal Hunting and Dealing in Wild Animals, which strictly restricts hunting for commercial purposes; prohibits hunting of animals for purpose of eating; enhances management of captive breeding, transportation, and import/export; prohibits exporting live animals and their dead bodies (includes fresh, cold, frozen or dried body or carcass) harvested from the wild for commercial purposes; strictly cracks down on any illegal activities damaging wildlife resources. Turtles and tortoises are covered by the notification. (van Dijk 2007). **Hong Kong:** All wild chelonians are legally protected in Hong Kong by the Wild Animals Protection Ordinance which prevents the collection, removal, destruction, disturbance and possession of any wild turtle or possession of any hunting or trapping equipment (Lau et al. 2000). **Laos:** Principles, regulations and measures for the protection and management of wildlife are governed by the Wildlife and Aquatic Law (No07/NA 24 December 2007), and *P. megacephalum* is listed under Prohibited Category I, the highest the protective category, banning hunting and collection year-round. **Burma (Myanmar):** *P. megacephalum* is completely protected by the Protection of Wildlife, Wild Plants and Conservation of Natural Areas Law, 1994 (van Dijk 2007). **Thailand:** *P. megacephalum* is protected from all forms of exploitation under the Wild Animals Reservation and Protection Act B.E. 2535 (WARPA) of 1992. The WARPA act includes provisions for the implementation of CITES. (van Dijk 2007). **Viet Nam:** Decree 48 of 2002 has been replaced by Decree 32/2006/ND-CP, issued on 30 March 2006, on Management of Endangered, Precious, and Rare Species of Wild Plants and Animals. The newer decree added *Platysternon megacephalum* and other 2 turtles (*Manouria impressa*, *Mauremys annamensis*) to Category IIB, Viet Nam also adopted Decree No. 159/2007/ND-CP setting out penalties for forest and wildlife crimes.

7.2 International

P. megacephalum has been currently listed in Appendix II of CITES since 2002.

8. Species Management

8.1 Management measures

In February 2011, the Conservation of Asian Tortoises and Freshwater Turtles Workshop was held in Singapore and resulted in overall and taxon-specific recommendations for species currently assessed as Critically Endangered, and species likely to be listed as Critically Endangered in the near future; *P. megacephalum* fell into the latter category. Participants agreed that most of Asia's turtle species lack adequate studies for effective conservation actions to be properly planned and managed, especially for such species that are heavily collected. For *P. megacephalum*, it was specifically recommended that increased efforts to protect wild populations and their associated habitat should be prioritized along with increase anti-poaching efforts. (Horne et al. 2012).

Management needs were briefly summarized by Pipatsawasdikul et al. (2010): The species urgently needs an aggressive conservation program to ensure its survival. Immediate conservation efforts should include (Pipatsawasdikul et al. 2010, Shen et al. 2010):

- a. Maintenance of natural forest ecosystems;
- b. Elimination of poaching via more vigilant enforcement;
- c. Strong legislative action to protect the species;
- d. Long-term monitoring program to detect future changes in distribution and population numbers;
- e. Educational programs with local communities;
- f. Potential translocation efforts.

Shen et al. (2010) recently conducted research to gain an understanding of the feasibility of a large scale translocation program for *P. megacephalum*. The short distances that the species moves, combined with stream fidelity and cryptic behavior suggests that the species may be a viable candidate for such efforts.

Other opportunities should focus on building collaborations with relevant global and regional multi-national agencies and initiatives, especially for *P. megacephalum*, which ranges across geo-political boundaries. Ultimately, better enforcement of existing laws across its range is needed if the species is to remain extant within its natural habitat. (Horne et al. 2012).

8.2 Population monitoring

No consistent monitoring efforts being conducted for the species have been reported. Although several new locations in Thailand were reported, it was recommended that the species urgently needs an aggressive conservation program to ensure its survival (Pipatsawasdikul et al. 2010).

8.3 Control measures

8.3.1 International: The species has different levels of protection within the range countries (see section 7.1 and 7.2 National and International Legal Instruments). All range countries are CITES signatories, but effective implementation of CITES provisions depends on the countries provisions and management of CITES-implementing legislation.

8.3.2 Domestic: The species has different level of protection within the range countries (see section 7.1 and 7.2 National and International Legal Instruments).

8.4 Captive breeding and artificial propagation

Available information confirms that the species does not readily breed in captivity and there have not been any assurance colonies established (Shi et al. 2007, Horne et al. 2012). Dedicated

hobbyist keepers, zoos and other institutions keeping the species succeed only occasionally in breeding the species (Weissinger, 1987; Gad, 2007), and successive years of successful captive breeding of a particular group of captives have apparently not ever been achieved. Due to the relatively low annual reproductive potential and the difficulty in maintaining large numbers of this mountain stream species, conservation of *P. megacephalum* should not rely on captive breeding to supplement wild populations (Horne et al. 2012).

8.5 Habitat conservation

No specific habitat conservation measures for *P. megacephalum* have been identified. However, suitable stream habitat is still available within the species range, but not all is within protected wildlife areas. One important factor to consider for the long-term persistence of the species is maintaining suitable and appropriate natural forest ecosystems (Pipatsawasdikul et al. 2010). Horne et al. (2012) recommends that at least one suitable and legally designated protected area should exist for the species. Shen et al. (2010) indicate that streams are very important for this species, and that their connectivity may provide critical movement and dispersal corridors. Any future habitat conservation efforts shall consider these findings.

8.6 Safeguards N/A

9. Information on Similar Species

This monotypic species should not be confused with any other regional turtle species, as it has extremely peculiar and distinct morphological characteristics (particularly the fact that its head is too large to protrude into the shell). It has some similarity to common snapping turtles found in the Americas but these have shells that are not smooth (i.e. strongly serrated and knobbed).

10. Consultations

Consultation letters on transferring Platysternidae from Appendix II to Appendix I have been sent to all 6 range countries with the following responses:

China: China does not support an Appendix-I listing of this species but would support retaining it in Appendix II with a zero quota on wild species for commercial purposes, until they are reviewed by the Animal Committee.

Thailand: Thailand indicated that it has “no problem in implementing its own law” for this species.

11. Additional Remarks

The IUCN Tortoise and Freshwater Turtle Specialist Group and the Wildlife Conservation Society recommended that the United States propose *P. megacephalum* for inclusion in Appendix I, noting the recommendations of a major workshop of Asian turtle specialists in Singapore in February 2011 that assessed the IUCN Red List status and CITES listing needs for Asian turtles. These specialists recommend that the species be transferred to Appendix I in CITES and reclassified as Critically Endangered in the IUCN/SSC Red List of Threatened Species. These measures would help conserve the survival and viability of remaining populations, by resulting in increased enforcement efforts and higher penalties for those caught trafficking in the species (Horne et al. 2012). China and the United States cosponsored inclusion of this species in Appendix II at CoP12 in 2002.

IUCN information:

P. megacephalum is listed as Endangered (A1d+2d) (with a Critically Endangered draft revision in progress, by the IUCN) due to specific trade demand in Lao and Viet Nam. It may be either Vulnerable or Endangered in China (main range state). The small populations in Thailand are Vulnerable (OEPP 1997); the situation in Burma (Myanmar) is unknown.

NOTE: this text dates from December 1999, before the impact of the 1990s-2000s wave of intensive turtle exploitation was fully appreciated.

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