

## CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Inclusion of *Pyxidea mouhotii* in Appendix II in accordance with Article II 2(a) of the Convention, and satisfying Resolution Conf. 9.24, Annex 2a, Criteria A and Bi).

B. Proponent

People's Republic of China and United States of America, in accordance with the consensus recommendation of the CITES-sponsored Technical Workshop on Conservation of and Trade in Freshwater Turtles and Tortoises in Asia held in Kunming, China in March 2002.

C. Supporting statement1. Taxonomy

- 1.1 Class: Reptilia
- 1.2 Order: Testudines
- 1.3 Family: Bataguridae
- 1.4 Species: *Pyxidea mouhotii* (Gray, 1862)
- Subspecies: One subspecies has been described: *P. m. obsti* Fritz, Andreas, and Lehr, 1997
- 1.5 Scientific synonyms: *Cyclemys mouhotii* (Pope, 1935), *Cyclemys mouhoti* (Smith, 1931), *Geomyda mouhoti* (McDowell, 1964)
- 1.6 Common names: English: Keeled Box Turtle, Jagged-shelled turtle, Keel-backed turtle  
French:  
Spanish:

## 1.7 Code numbers:

2. Biological parameters

## 2.1 Distribution

*Pyxidea mouhotii* is a medium-sized (up to 18 cm carapace), terrestrial turtle. In India, it has a clutch size of 1-3 eggs (Tikader and Sharma, 1985).

*Pyxidea mouhotii* is found in China, India, Lao PDR, Myanmar, and Viet Nam. China: *P. mouhotii* is found in south and central China in Yunnan, Hunan, Guangdong, Guangxi, and Hunan provinces (Lau and Shi, 2000). India: In India, the keeled box turtle is found in Meghalaya, Assam, Arunachal Pradesh, and possibly in Mizoram (Bhupathy et al., 1994 cited in Choudhury et al., 2000). Lao PDR: This species is found in central Laos (Tana et al., 2000). Myanmar: This species inhabits rocky slopes and ridgelines in Myanmar (Platt et al., 2000). Viet Nam: The Keeled Box Turtle is found in the forested regions of northern and central Viet Nam (Hendrie, 2000).

## 2.2 Habitat availability

General: The Keeled Box Turtle is a terrestrial species that seldom enters water (Ernst and Barbour, 1989). China: This species lives in hill forests in China where there is still suitable habitat left (Lau and Shi, 2000). India: In India, forests continue to exist in its range (Choudhury et al., 2000). Lao PDR: The keeled box turtle has naturally restricted ranges in Laos (Stuart and Timmins, 2000). Myanmar: No specific information available. Viet Nam: *P. mouhotii* is limited to remaining natural forests, parks, and protected areas (Hendrie, 2000).

## 2.3 Population status

China: *P. mouhotii* is considered to be endangered in China and is rarely seen in the wild (Zhao, 1998 cited in Lau and Shi, 2000). India: This species appears to be common in the North Cachar Hills, Assam, and Namdapha TR (Bhupathy et al., 1999 cited in Choudhury et al., 2000). Lao PDR: This species continues to survive but is considered more susceptible to exploitation due to restricted ranges in the country prior to being threatened by collection (Stuart and Timmins, 2000). Myanmar: The keeled box turtle appears to be uncommon throughout its range (Platt et al., 2000). Viet Nam: This species is considered endangered in Viet Nam (Rhodin, 2002).

## 2.4 Population trends

China: It is thought that this species has probably declined drastically (Lau and Shi, 2000). Trapping and collecting is widespread in Hainan where villagers reported that this species was once very common but is now difficult to obtain (de Bruin and Artner, 1999 cited in Lau and Shi, 2000). India: Unknown. Lao PDR: There is evidence from a paucity of field records that turtle populations have declined considerably in Laos even though no long-term monitoring programs have been initiated for turtles (Stuart and Timmins, 2000). Myanmar: No information available. Viet Nam: Unknown. It is unlikely that natural populations can sustain present levels of collection (Hendrie, 2000).

## 2.5 Geographic trends

Geographic trends for *P. mouhotii* are poorly known. It is believed that Keeled Box Turtle populations are declining throughout the species' range.

## 2.6 Role of the species in its ecosystem

*P. mouhotii* is a terrestrial species which seldom enters water and is almost exclusively herbivorous (Ernst and Barbour, 1989).

## 2.7 Threats

China: The main threat to *P. mouhotii* is over-collecting for the food trade with deforestation posing a further threat (Lau and Shi, 2000). India: The keeled box turtle is threatened by collection for consumption and trade and possibly by habitat loss and alteration due to shifting cultivation and logging (Das, 1991 cited in Choudhury et al., 2000). Lao PDR: In Laos, all species of turtles are threatened by varying levels of hunting for local subsistence, domestic consumption, and especially for international trade to Viet Nam and China (Stuart and Timmins, 2000). Myanmar: It is likely that all species of turtles occurring in Myanmar are exploited for either food or local and export markets (Platt et al., 2000). Viet Nam: The main threat to this species in Viet Nam are collection and habitat loss (Hendrie, 2000).

### 3. Utilization and trade

#### 3.1 National utilization

China: *P. mouhotii* is recorded in food trade in China (Lau and Shi, 2000), and the food and pet trade in Hong Kong Special Administrative Region (Lau et al., 2000). India: Very few records exist but it is likely that some collecting of this species occurs for local markets (Bhupathy et al., 2000) and it is utilized for food in India (Choudhry and Bhupathy, 1993). Lao PDR: Local subsistence use of wild-collected turtles is not species-specific and is widespread throughout Laos (Stuart and Timmins, 2000). This species, like other turtles in Lao PDR is probably sold to Vietnamese traders for the Vietnamese and Chinese consumption trade (Stuart, 1999). Myanmar: The keeled box turtle is consumed locally and plastrons are sold to traders (Platt et al., 2000). This species is almost certainly exported to food markets in southern China (Bhupathy et al., 2000). Viet Nam: Most individuals encountered today are probably sold to traders although in the past it is likely that these turtles were consumed locally (Hendrie, 2000). *P. mouhotii* is common in the domestic pet and smaller individuals are also kept as pets in rural areas (Hendrie, 2000).

#### 3.2 Legal international trade

China: China has suspended exports of native species of Testudinata for commercial purposes (except *Chinemys reevesii* and *Trionyx sinensis*) according to the CITES Management Authority of China (*in litt.* to CITES Secretariat, 17 November 2001, cited in AC18 Doc. 7.1). China has been and remains a major importer of live turtles, both legal and illegal. Except for CITES-listed species which are likely to have been imported illegally, it is to differentiate legal international trade from illegal trade in other species (Lau and Shi, 2000). Major turtle markets exist in Guangzhou, Shanghai, and Shenzhen. India: There is no legal international trade of *P. mouhotii* in India (Choudhury et al., 2000). Lao PDR: As of 1999, no data were available on volumes of domestic turtle trade in Laos, as no monitoring studies have been conducted (Stuart and Timmins, 2000). However, there appears to be extensive export of turtles from Laos to Thailand and unquantified exports to Viet Nam (Jenkins, 1995). Myanmar: Commercial trade in tortoises and freshwater turtles is not allowed in Myanmar, and as a result, no official trade statistics are available (van Dijk, 2002). Viet Nam: Official CITES office records report that between 1994 and 1999, 6,560 keeled box turtles were legally exported (Hendrie, 2000).

#### 3.3 Illegal trade

China: Many CITES-listed species have been observed in south China food markets; it is most likely that these were imported into China illegally, particularly Appendix-I species such as *Batagur baska* (Lau and Shi, 2000). Many non-CITES species in Chinese food markets have likely also been imported illegally, attesting to the documented illegal exports from other countries such as Myanmar and Viet Nam. India: There was no specific information on illegal trade of *P. mouhotii* in India. Lao PDR: All trade in turtles in Laos is considered legal as no turtles are truly protected in this country (Stuart and Timmins, 2000). Myanmar: It has long been suspected that a large illegal turtle trade exists in Myanmar (Jenkins, 1995). Observations in markets in mainland China of substantial quantities of turtle species endemic to Myanmar (Kuchling, 1995; Artner & Hofer, 2001 as cited in van Dijk, 2002) show that illegal exports from Myanmar are substantial (van Dijk, 2002). Viet Nam: A moderate degree of illegal international trade occurs from Viet Nam (Rhodin, 2002) and this species is common in wildlife trade seizures along northern ground routes, particularly during the spring (Hendrie, 2000).

#### 3.4 Actual or potential trade impacts

China: The large-scale exploitation of *P. mouhotii* for the food trade is most likely unsustainable (Lau et al., 2000). India: There was no information available on trade impacts to *P. mouhotii* in India. Lao PDR: There was no information available on trade impacts to this species in Laos. Myanmar:

Due to the lack of survey data, it remains difficult to assess the turtle populations in Myanmar; however, available data suggest that declines have occurred as a result of over-harvesting for local consumption and to meet the demands of export markets (Platt et al., 2000). Viet Nam: Potential trade impacts include the depletion of wild populations and compromised viability of surviving populations (Hendrie, 2000).

### 3.5 Captive breeding for commercial purposes (outside country of origin)

China: Small numbers of captive-bred yearlings of *P. mouhotii* are for sale in pet shops reflecting that dealers are aware of the benefits of captive breeding (Lau et al., 2000). Captive breeding for commercial sale occurs on Chinese turtle farms (Shi and Parham, 2001). India: The keeled box turtle has been recorded in one captive breeding center in India but records show no breeding has actually occurred (Choudhry and Bhupathy, 1993).

## 4. Conservation and Management

### 4.1 Legal status

#### 4.1.1 National

China: Several freshwater turtles and tortoises are listed in the People's Republic of China Wild Animals Protection Law are state major protected wildlife grade I, while others are grade II protected (van Dijk, 2002). However, the keeled box turtle is neither grade I or grade II. The Wild Animals Protection Law also covers important economic and scientific species, though the actual species are not listed. For terrestrial species, the State Forestry Administration is responsible for the administering and enforcing of this law, while the Fisheries Ministry is responsible for the aquatic species (van Dijk, 2002). The collecting of state major protected species is only allowed for scientific research, captive breeding, exhibition and other special reasons. Permission from the Forestry or Fisheries bureau in the central government is needed for the collecting of grade I protected species; permission from the Forestry or Fisheries Department in the provincial government is required for grade II protected species (van Dijk, 2002). The transport of state major protected species across county boundary needs the permission from the provincial Forestry or Fisheries Department. The import and export of these state major protected species and CITES-listed species need the permission from the Forestry or Fisheries bureau in the central government and a certificate issued by the Endangered Species of Wild Fauna and Flora Import and Export Administrative Office (Shi and Lau, 2000 cited in van Dijk, 2002). Regarding imports and exports of turtles, China has tightened regulations considerably in recent years (van Dijk, 2002). Notice of Strengthening the Live Reptile Import and Export Management (China CITES Authority No.[2000] 51) was issued by the State Endangered Species Import and Export Administration Office in June 2000 (van Dijk, 2002). This was augmented by Notice of Strengthening the Trade Management on Turtles and Tortoises, issued by the State Endangered Species Import and Export Administration Office on June, 17, 2001 (van Dijk, 2002). Under these Notifications, commercial imports of turtle species listed on Appendix II of CITES are only accepted from Parties that set an annual export quota, all commercial imports of all turtles from Indonesia, Cambodia and Thailand are suspended, all imports of turtles into China need to be accompanied by export permits or certificates from the exporting country, turtle imports are restricted to a small number of designated airports, and local wildlife authorities are instructed to co-operate closely with customs authorities (van Dijk, 2002).

India: The keeled box turtle is not included in the Schedules of the Indian Wildlife (Protection) Act of 1972 (van Dijk, 2002) and is unprotected in India (Choudhury et al., 2000). India has been a Party to CITES since October 1976.

Lao PDR: Wildlife legislation in Laos, currently under review, does not protect freshwater turtles from exploitation or prevent the collection of turtles from an area (van Dijk, 2002). Laos is not a Party to CITES.

Myanmar: The Burma Wildlife Protection Act, 1936, which was based on the Wild Birds and Animal Protection Act of 1912, is the main law extending protection to listed species (Van Dijk, 2002). In 1991, the only listed species were mammals and birds, and no turtle species were included in this law (Gaski and Hemley, 1991 cited in van Dijk, 2002). Myanmar law prohibits the commercial exploitation of natural resources, including tortoises and freshwater turtles, but allows collection for subsistence use outside protected areas and reserved forests (van Dijk, 2002). Thus, the commercial trade of tortoises and freshwater turtles is illegal (Platt et al., 2000). All native turtle species are specifically protected under the Protection of Wildlife, Wild Plants and Conservation law, 1994, and all wildlife is protected in wildlife sanctuaries and national parks (Platt et al., 2000). The Department of Fisheries does not issue permits for the harvest of turtles and Law 34 provides stiff penalties for those engaged in turtle trading (Platt et al., 2000). Myanmar became a CITES Party in 1997.

Viet Nam: Ministerial decree No 18 of the Council of Ministers Stipulating the Categories of rare and precious forest fauna and flora, and their management and protection, dated 17 January 1992, includes two species of non-marine turtles, *Indotestudo elongata* and *Pelochelys bibroni* (= *P. cantorii*), under category II. Thus utilisation of these two species is restricted to scientific research, establishing breeding populations, and international exchange. Any such activities require a collection permit from the Ministry of Agriculture and Rural Development (Hendrie, 2000). The list of species protected by Decree 18 is currently under review and more turtle species may be included. Directive 359 (1996) restricts trade in wildlife and animal parts, including prohibiting the sale of wildlife in restaurants. Commerce and trade regulations require a permit issued at the provincial level for trade in any commodity, including wildlife (Hendrie, 2000). Circular 62/2001/TT-BNN issued on 05 of June 2001 by the Ministry of Agriculture and Rural Development to guide imports and exports of goods and commodities managed by the Ministry for the period of 2001-2005 stipulates that Viet Nam prohibits exports of all wild animals and rare and precious plants. Thus export of all native turtle species is prohibited. Viet Nam became a Party to CITES in 1994.

#### 4.1.2 International

*P. mouhotii* is not currently listed in the CITES appendices.

### 4.2 Species management

#### 4.2.1 Population monitoring

No specific population monitoring programs for this species, or for Asian freshwater turtles in general, have been identified.

#### 4.2.2 Habitat conservation

India: In India, some of *P. mouhotii*'s range is in protected areas (Choudhury et al., 2000). Lao PDR: Since 1993, the government of Laos has officially designated 20 areas as National Biodiversity Conservation Areas which cover approximately 12.5% of the country's surface (Stuart and Timmins, 2000). Myanmar: Significant areas of Myanmar have been designated as protected areas (currently 38 areas covering 31,972 sq. km or 4.7% of total land area (U. Kyaw Moe et al., 2002)). Viet Nam: There are 11 National Parks and 91 Protected Areas designated in Viet Nam which cover 13,425 km<sup>2</sup> or 4.1% of the country (MacKinnon, 1997 as cited in Hendrie, 2000).

#### 4.2.3 Management measures

Viet Nam: A Turtle Conservation and Ecology Project was established in 1998 by the Cuc Phong National Park and the Forest Protection Department that was aimed at receiving and translocating turtles confiscated from the wildlife trade, conducting research, public education, and training of regional authorities (Hendrie, 2000).

#### 4.3 Control measures

##### 4.3.1 International trade

Viet Nam: Viet Nam recently adopted CITES-implementing legislation, which should help control international trade.

##### 4.3.2 Domestic measures

Lao PDR: An upsurge in efforts to control wildlife trading in recent years by officials has resulted in fewer turtles being openly seen in markets, including Ban Lak in Vientiane Municipality and at Ban Lak in Bolikhamxai Province (Stuart and Timmons, 2000).  
Viet Nam: The National Forest Protection Department is increasing enforcement activities on the ground and investing in the training of its rangers however, the process is slow and unlikely to achieve the results that are needed to meet the threat posed by the illegal wildlife trade (Hendrie, 2000).

#### 5. Information on Similar Species

No information is available.

#### 6. Other Comments

The species' status on the IUCN 2000 Red List is: Endangered (A1d+ 2d).

All range countries were consulted by mail regarding this proposal.

The consensus recommendation from the CITES-sponsored Technical Workshop on Conservation of and Trade in Freshwater Turtles and Tortoises, held in Kunming, China from March 25-28, 2002, is that *Pyxidea mouhotii* is one of the 11 highest-priority taxa for an Appendix-II CITES listing at COP 12. Governments of all range countries for the species were represented at the Kunming Workshop (with the exception of Lao PDR, a non-CITES country which was nonetheless invited to participate in the Workshop).

#### 7. Additional Remarks

Anders G. J. Rhodin of the Chelonian Research Foundation has recommended that *Pyxidea mouhotii* be considered for listing in Appendix II.

#### 8. References

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