

## Turtle Trade in Northeast Asia: Regional Summary (China, Hong Kong, and Taiwan)

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### Patterns of Trade

In the Northeast Asian subregion, consumption of turtles can be separated into three main areas: (1) live turtles for food, (2) shells for Traditional Chinese Medicine, and (3) live turtles as pets, including those for Buddhists' release. The food trade involves by far the largest quantities of turtles.

Softshell turtles are widely eaten by the Chinese as a delicacy. Hence, the sale of softshell turtles is widespread in China, Hong Kong, and Taiwan. The vast majority of these are farm-bred Chinese softshell turtles, *Pelodiscus sinensis*, either raised locally or imported from neighboring countries such as Thailand. A smaller number of wild-caught softshells (both within the countries or imported from Southeast Asian or South Asian countries) are also traded. Hardshelled turtles are also widely consumed in southern China and Hong Kong, but not in Taiwan due to cultural sentiments. There are unconfirmed reports that some cities in North China also import hardshelled turtles for food. Nearly all hardshelled turtles seen in Chinese food markets are wild-caught and most of these are imported from Indochina, Southeast Asia, and South Asia.

Due to the large number of source countries involved, there are many different trade routes for the food chelonians,

but nearly all of them end up in large cities in South China (such as Guangzhou) and Hong Kong. All means of transport are used depending on their availability and the distance between the source countries and South China. Land-based transport is used to deliver turtles from neighboring countries (such as Vietnam and Myanmar) to southern provinces in China. Turtles are also flown from countries further away (such as Indonesia) either directly or via some major ports to South China. The extent of sea transport used is not certain. The major ports involved in the freight of turtles are Bangkok, Guangzhou, Hong Kong, Kuala Lumpur, Singapore, and Taiwan. As indicated by the frequent change in species composition of the turtles observed in the food markets, the source areas shift regularly. Hence, there are no fixed routes and the routes used depend on the source markets at the time, the availability of freights, and the restrictions imposed by different ports. However, it seems that there are more turtles being directly shipped to South China than previously.

Although some species command a much higher price than others, the food turtle trade in South China is indiscriminate in that all available chelonian species are consumed. Most of the Asian species have been observed in food markets in South China and recently small numbers of North American turtles have also been seen. It is likely that some

of the traders are exploring new sources, such as North and South America, to supply food turtles.

The shells of turtles (usually plastrons from hardshelled species and carapaces from softshells) are widely used in Traditional Chinese Medicine. No data are available for the turtle shell trade in China and Hong Kong, although bags of plastrons and carapaces can be found in Chinese medicine markets in South China. Turtle jelly, in which one of the main ingredients is turtle shell, has become popular in Hong Kong and there are chain stores specializing in this “health food.” From 1992–98, Taiwan imported more than 1186 tons of turtle shell (both hardshelled and softshell species) from mainland China and Southeast Asian countries such as Indonesia and Singapore.

Keeping turtles as pets is quite popular in both Hong Kong and Taiwan, but has just started in mainland China where the present pet trade is insignificant. The bulk of the pet market is comprised of a handful of North American species, of which vast numbers of captive-bred hatchlings are imported from the United States and Japan. Small numbers of exotic turtles and tortoises also turn up in pet shops in Hong Kong and Taiwan. There is, however, a global market for rare species. Hong Kong and Taiwan re-export a small number of rare Asian turtle species to USA, Europe, and Japan. Some of these species are of Chinese origin, while others arrive in China or Hong Kong from other Asian countries with shipments of food turtles, but are picked out by the pet dealers. Recently, a dealer in Shanghai has started a business exporting turtles directly to western countries and Japan.

### Species in Trade

Nearly all species of Asian chelonians are consumed in South China. The primary species in the food trade are *Pelodiscus sinensis*, *Cuora amboinensis*, *Malayemys subtrijuga*, *Siebenrockiella crassicollis*, *Cyclemys* spp., *Orlitia borneensis*, *Notochelys platynota*, *Indotestudo elongata*, and *Amyda cartilaginea*. Species composition in the food market changes frequently. For instance, *Geoemyda yuwonoi*, *Morenia petersi*, and *Lissemys punctata* were common in the market a few years ago, but have now more or less disappeared. *Chinemys reevesii* and *Mauremys mutica* were the commonest species in the 1970s and early 1980s before the influx of turtles from other Asian countries. Now *C. reevesii* appears to have disappeared completely from the food markets.

The primary species identified in the Taiwan plastron trade are *C. amboinensis*, *M. subtrijuga*, and *S. crassicollis*. Many *C. reevesii* plastrons are also imported. The primary species used in the plastron trade in Hong Kong and China markets are not known.

The pet trade can be separated into species for sale in the Northeast Asia subregion and those leaving the Northeast Asian subregion. The local pet market is dominated by hatchlings of captive-bred North American turtles (*Trachemys scripta elegans*, *Graptemys* spp., and

*Pseudemys* spp.), and *Ocadia sinensis*. A small number of turtles are also exported from Northeast Asia for the pet trade. This trade normally targets a multitude of rare or new species or varieties.

### Effects of Trade on Native Turtle Populations

Due to the long history of consuming chelonians in mainland China, particularly in the southern part, wild populations of the once common chelonian species have long been affected and are believed to have declined drastically. Some of the highly restricted species that were only discovered in the last 15 years are particularly sought after by dealers to supply overseas collectors and researchers. Species like *Cuora aurocapitata* and *C. mccordi* are further threatened by the food trade because they resemble *C. trifasciata* and command a very high price in food markets.

In Hong Kong, nearly all the turtles consumed are imported from mainland China or other Asian countries. Hence, with the exception of *C. trifasciata*, the collecting pressure is not intense. *Cuora trifasciata* commands a very high price in both food markets and the pet trade. Illegal turtle traps have been found in both protected and unprotected areas in Hong Kong. The impact of such trapping on the local population of *C. trifasciata* is not yet known.

In Taiwan, *Pelodiscus sinensis* is the only turtle consumed and much of this demand is met by animals produced from local turtle farms. The impact of trade on wild populations of *P. sinensis* is not considered to be serious. There are several farms that produce hatchlings of *Ocadia sinensis* for the pet trade and for release. Often, adults from the wild are collected to supplement the breeding stock. This small scale collecting does not appear to have a major negative impact on *O. sinensis* in Taiwan.

In both Hong Kong and Taiwan, large numbers of hatchling *Trachemys scripta elegans* are sold as pets. When these hatchlings grow up, the owners often release them into the wild and this species has become established in lowland water bodies in both countries. The impact of this exotic turtle on the local chelonian fauna is unclear, but it may have caused or contributed to the decline in the sympatric populations of *Chinemys reevesii* in Hong Kong.

### Current Regulations and Controls

The Northeast Asia subregion has laws in place to protect both the native chelonians and CITES-listed species. In China, *Testudo horsfieldii* and *Pelochelys bibroni* (current name = *P. cantorii*) are listed as Class I National Protected Wild Animals. *Cuora trifasciata*, *C. yunnanensis*, *Geoemyda spengleri*, *Manouria impressa*, and *Trionyx steindachneri* (current name = *Palea steindachneri*) are in Class II. Collecting of and trade in Class I protected species is only allowed with the permission from the central government. For Class II species, permission from the provincial government is required. CITES Appendix I species are treated as Class I National Protected Wild Animals and

similarly, CITES Appendix II species are regarded as Class II National Protected.

In Hong Kong, all native chelonians are protected. The trade and possession of CITES-listed species is only allowed with permission from the Agriculture, Fisheries and Conservation Department. In Taiwan, local populations of *C. reevesii*, *C. flavomarginata*, and *M. mutica* are protected, as are all CITES-listed species.

However, some of the laws are not clearly defined and subject to different interpretations. Enforcement is not adequate due to the following:

- identification problems and lack of holding facilities;
- general lack of well-trained staff;
- inadequate inspection of the content and labeling of imported and trans-shipped turtles (some are labeled as seafood);
- lack of understanding of the seriousness of this issue among officials;
- enforcement responsibility is often divided and unclear between departments.

### Priority Projects

1. Produce identification guides and develop identification skills and networks for law enforcement staff.
2. Shipments of live turtles should adhere to the International Air Transport Association (IATA) regulations and guidelines on the transport of live turtles.
3. Live turtles coming into the subregion should be inspected to verify the labeled contents of the shipments and to check the health certificates (in the case of Hong Kong and Taiwan).
4. Sources of funding to undertake adequate enforcement need to be identified. The possibility of having a tax

(certain portion of which has to go back to the law enforcement department) on the import and export of live turtles can be explored.

5. Trade volume, species composition, consumption centers, and trends should be monitored.

6. Existing laws and regulations should be reviewed using the most up-to-date information.

7. Conservation programs, particularly *ex-situ* breeding for *Cuora aurocapitata*, *C. mccordi*, and *C. zhoui*, and also *in-situ* conservation measures should be established for priority species.

8. Herbal medicine alternatives to turtle shell should be explored.

9. The exact medicinal and/or tonic properties of turtle shells and hard-shelled turtles should be examined.

10. Findings and recommendations of this workshop should be presented to all the governments involved, particularly China, and all relevant non-government organizations.

11. Promote education projects and materials to raise the profile of turtles with school groups, Buddhists, and the general public.

12. Utilize media coverage and launch a global marketing campaign.

13. Possibility of farming native hard-shelled turtles, together with an accreditation system should be explored.

14. Placement of confiscated animals, such as for use in educational programs for schools and communities, founder stocks for *ex-situ* breeding programs, release back to the wild, and possible commercial use, should be addressed and a network of recognized placement centers be established.

15. Field research and inventory studies should be encouraged.

16. A gene bank of Asian turtles should be established.