

Chinese Turtle Identification Key

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All species of turtles in China are traded, with indiscriminate exploitation of all accessible populations. This has resulted in severely depleted and extirpated populations near the consumer source in China, and ever-widening ripples of non-sustainable harvest reaching into all surrounding Southeast Asian regions and even beginning to impact turtles in North America and elsewhere.

Imports of turtles to southern China from the Southeast Asian region have been measured in tons of live turtles per day, with more than 10 million individuals traded per year (IUCN/SSC Tortoise and Freshwater Turtle Specialist Group and IUCN/SSC Turtle Survival Alliance, 2002). Up to 19 tons of turtles passed through three border ports between Guangxi province and Vietnam per day (Li & Li, 1997). Most of the Asian turtles have been seen for sale in the food markets in South China. Virtually all Asian chelonians in trade are believed to be wild-caught.

All contributors to the recent Chelonian Research Foundation (CRF) Research Monograph on the Asian turtle trade (van Dijk, Stuart, and Rhodin, 2000) implicate the demand of Chinese markets as the primary cause for the decimation of turtle populations throughout Asia.

There has been a long history of using chelonians as food and medicine in China. Softshelled turtles were used by the king to reward his army more than 2,700 years ago (Zhou & Zhou, 1992). Turtles are regarded as a delicacy and are widely eaten throughout China. The national law protects several of the non-marine chelonians in China and individual provinces protect additional species, but collecting and trade of native turtles is still widespread. Education and enforcement is seriously inadequate (Zhao, 1998).

Besides, it is also an animal welfare issue due to poor housing and transport of these animals and their methods of slaughter. There are no rescue for turtles in China and the majority of confiscated turtles are disposed of improperly. These turtles are kept in inappropriate conditions until death, sold illegally, or released far outside their natural range - introducing foreign pathogens and competition to already fragile endemic turtle populations. The illegal trade in turtles results in many individuals being confiscated. Authorities usually do not have the necessary facilities and resources to house and care for these animals. Most of them are released to into the wild, an exotic species invasion. Religious release is another serious problem. Turtles are the symbol of happiness, peace and longevity to most Chinese people, and so some, mainly Buddhists, buy and release turtles with the hope of inducing wishes of happiness, peace and

longevity. Exotic species are cheap and easy to obtain, so most religious releases use exotic species. There are reports of exotic species of turtles surviving and reproducing successfully in some areas (Chen, 2000). These exotics negatively impact the local already fragile endemic turtle populations by introducing foreign pathogens or through competition.

Project aims

This project includes two main parts, one is a simple "yes or no" key, the characteristics only include simple, outside, obvious and typical features, and every characteristic will be shown with high quality photos. The second part is a detailed description of every species included in this guide so as to further check and confirm the result from key or to read it directly to understand more information about the identification and conservation of turtles.

Creating a simple identification manual that combines pictures and diagnostic characters is imperative. The guide will enable identification of turtles at ports of entry by largely untrained customs workers, as well as relevant government officials, turtle hobbyists, turtle farmers, conservation rangers, and zoology students and non-turtle specialists. Most zoologists in China are often asked to identify confiscated wild animals in their provinces, yet most of them are not familiar with turtles and lack an effective identification manual on their hands.

Existing guides have the keys and photos separated, or else there are scientific keys alone that include a lot of useless anatomical and skeleton characteristics to non-turtle-specialists (CITES Office in China, 2002; Iverson, 1992). It is difficult for most non-turtle-specialists to use these kinds of identification guides. Other guides only include a few photographs, but many turtles are very similar to each other and show substantial variation between males and females, adults and hatchlings, different seasons and geographic regions. In many cases, it can even be difficult for turtle specialists to identify turtles correctly. Moreover, most identification guides are written in English, rendering them useless to the majority of Chinese conservation workers.

One of the main causes of ubiquitous illegal trade is the nonfeasance of enforcement. Customs will be the first barrier to stop illegal trade. But wrong enforcement will make trouble for staff themselves and nonfeasance will not bring trouble to themselves. Therefore the nonfeasance of enforcement is ubiquitous due to the difficulty of identification and fear of wrong identification. A new identification manual, in Chinese, with external morphological characteristics and numerous photographs will give the confidence to staff and relevant people who require identification, be of great practical use in China and could be of great support in enforcing the illegal trade legislation.