
TURTLE SOUP: LOCAL USAGE AND DEMAND FOR WILD CAUGHT TURTLES IN QIONGZHONG COUNTY, HAINAN ISLAND

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Abstract.—The Asian turtle crisis has caused a severe depletion of all native Chinese turtle species. During this time there have been many efforts, both within China and abroad, to slow and/or stop the trade of turtles. However, recent studies on the turtle trade in China show it is not slowing down and is becoming more sophisticated. The history of turtles and turtle trade on Hainan Island, China, has been well documented and therefore allows for comparisons with previous work. We conducted our study in Qiongzong County and a portion of Danzhou County in central Hainan. We performed both village surveys and field surveys to determine which species are still present in what areas, in what abundance relative to other species, and what is the main use of turtles sold, and their prices. We surveyed 14 villages comprising five regions and collected nine turtles of seven species (five native, two introduced) in roughly 7,240 trap days. For most species, multiple age classes are being collected and there are certain areas where they can be found consistently. Prices have continued to increase for all species and they are now mainly sold for pets or for breeding by farmers. Lack of enforcement by the agriculture and forestry agencies enables the local villagers to freely collect and sell without sufficient fear of punishment.

Key Words.—Asian turtle crisis, enforcement; illegal; survey; trade

INTRODUCTION

The Asian turtle crisis began almost 30 y ago and resulted in the depletion of many wild populations of Asian turtle species. In China, every species of turtle, except the Chinese Softshell Turtle (*Pelodiscus sinensis*), is listed as Endangered or Critically Endangered (International Union for Conservation of Nature [IUCN] 2015). This is a result of turtles being collected from the wild to fill the demand from medicinal, pet, and food markets (Cheung and Dudgeon 2006). Not only are native turtle populations under severe collection pressure, but they also face potential increased competition from the release of non-native turtles, i.e., the Red-eared Slider (*Trachemys scripta elegans*; Kai et al. 2013). Previous studies have found the turtle trade is growing strong and is well established across many provinces in China and throughout Asia (Shi et al. 2008; Horne et al. 2012). Most of the turtle trade stems from turtles produced by turtle farms, but collection of turtles from the wild still occurs as wild caught turtles return higher prices (pers. obs.). Prices for wild caught turtles have climbed over the last decade. Gong et al. (2006b) found Golden Coin Turtle (*Cuora trifasciata*) being sold for \$2,000 USD/kg in 2003; however, Wan et al.

(2015) found they were being sold for roughly \$8,000 USD/kg in 2012. This dramatic increase in price can be attributed to higher demand and the increasing rarity of the species. This trend is expected to continue to increase as the turtle trade in China is steadily growing.

As turtles continue to decline in the wild, it becomes more difficult to study their ecology, life history, and existing wild population localities. Turtle populations and the turtle trade on Hainan Island have been studied more extensively than in other areas of China (De Bruin and Artnr 1999; Shi 2001; Gong et al. 2005; Wan et al. 2015). This concentrated study in one area has helped to better understand the ecology (Wang et al. 2011a), population localities, population status (Wang et al. 2011b), and impacts/extent of turtle harvesting. In this study, we mainly focused on the turtle diversity in and nearby Qiongzong County. This area is home to three nature reserves (Wuzhishan National Nature Reserve, Limushan Provincial Nature Reserve, and Diaoluoshan Provincial Nature Reserve), military bases, and natural forests. All of these areas offer a potential place of refuge for turtles against poaching. The purpose of our study is to better understand the extent of the turtle trade in this area, locate existing wild populations and assess the effectiveness of these protected areas.

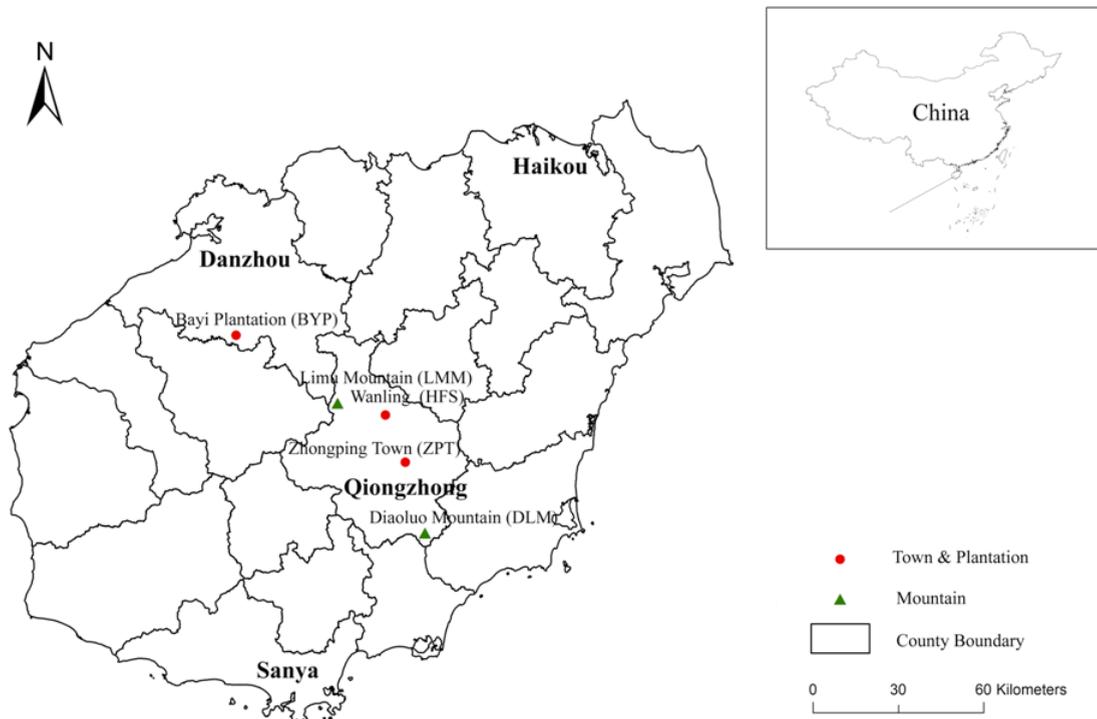


FIGURE 1. Map of Hainan Island with field site regions highlighted.

MATERIALS AND METHODS

Our study was conducted between October of 2014 and June 2015 and mostly involved Qiongzhou County in central Hainan Island and a small region in Danzhou County (Fig. 1). The regions used for field surveys and village surveys were Limushan Mountain region (LMM), Diaoluoshan Mountain region (DLM), Bayi Plantation (BYP), Wanling Field Station of Hainan Normal University (HFS), and Zhongping Town region (ZPT). To assess the turtle diversity within these areas, we actively trapped for turtles (at HFS, LMM and DLM) and interviewed local villagers about turtles captured near their villages. Once a turtle collector was found in the village, we asked which species were caught locally, most recent captures, most common turtle caught, price of sale, and if they currently had turtles in their possession. For turtle identification, we showed pictures of turtles found in Hainan and turtles not native to Hainan. Proper identification of native vs. non-native species was postulated to serve as an indicator of verification of collected species validity. Also, species accounts were verified by villagers presenting live, recently caught turtles.

Trapping.—Sites selected for trapping were either long-term study sites for Hainan Normal University (research station near Wanling or Diaoluoshan National Nature Reserve) or regions selected based on interviews

with local villagers (See map in Fig. 1). For trapping terrestrial turtles, we constructed wire mesh traps (15.24 cm H × 25.4 cm W × 45.72 cm L) with a one-way trap door. We baited land traps with a combination of dried salted fish and dried cow skin placed in a plastic bowl with 1 cm of water added.

We bought water traps at a local fishing store and had a metal collapsible frame covered in nylon mesh. We used water traps in both mountain streams (Fig. 2) and in abandoned fish ponds (Fig. 3), as local villagers have collected Chinese Golden Thread Turtle (*Mauremys sinensis*), Chinese Yellow Pond Turtle (*M. mutica*), and *Pelodiscus sinensis* from these ponds. We baited these traps with dried salted fish placed into an empty plastic bottle with puncture holes. To avoid traps being submerged by changes in water levels, we placed traps into streams or ponds at half of the diameter of the trap. We checked traps every one to two days and we replaced salted fish bait every four to five days; whereas, the dried cow skin could be used for up to one month. These trapping methods were suggested by the local collectors and have been used in other studies in China (Gong et al. 2006a; Wan et al. 2015).

RESULTS

We interviewed 30 villagers from five regions (comprising 14 villages) across Qiongzhou county and we interviewed five villagers from one region in

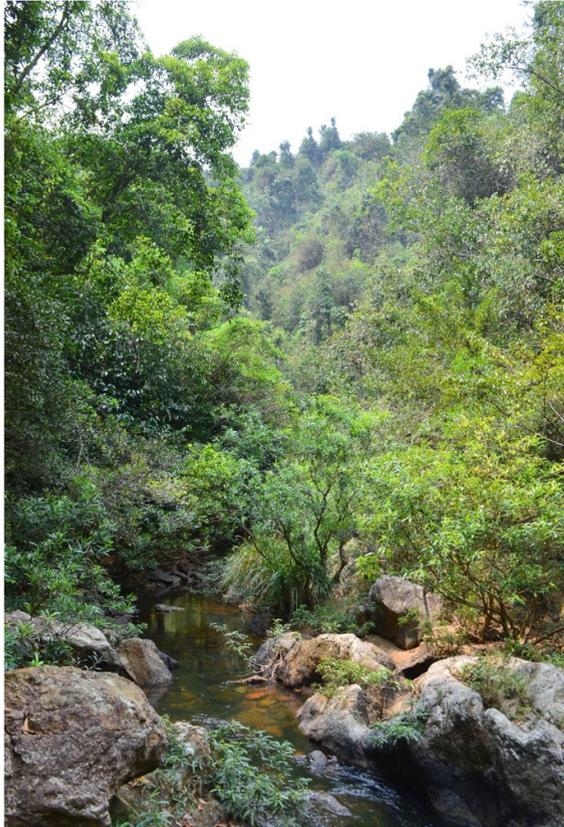


FIGURE 2. Turtle habitat near Limu Mountain Nature Reserve, Hainan Island, China. (Photographed by Daniel Gaillard).

Bayi Plantation (Table 1). Within Qiongzong County, 14 species were reported to be captured. Ten of these species are known from historical records to be native to Hainan and three species are known to be common pet trade releases (Table 1). One species identified in interviews, Chinese Red-necked Pond Turtle (*Mauremys*

nigricans), is potentially a new species account for Hainan. It should be noted that for *M. nigricans*, none of the villagers we interviewed claimed this species was ever caught by someone in their village. They always stated villagers in other areas had collected this species and because we had shown them pictures, we felt confident that they could identify this species; therefore, we excluded it from Table 1. Localities where *M. nigricans* were reportedly collected from are Wenchang, Qionghai, Chengmai, Tunchang, and from Qiongzong counties. In the BYP region of Danzhou County, only four species were detected and only three of those were native (Table 1). The greatest species diversity was from the LMM and ZPT region (nine species total). However, the most diversity from a single village was the lone village surveyed in the ZPT region, as nine species were detected in this village.

From our interviews, it appears prices for wild caught turtles have continued to rise, even for the previously inexpensive species (Table 2). Prices have increased over 1,000% for *M. nigricans*, which is the highest price increase observed in our study. Prices for Black-breasted Leaf Forest Turtles (*Geoemyda spengleri*) have stayed relatively stable as this species was not highly sought after previous to this year. Keeled Box Turtles (*Cuora mouhotii*) and *P. sinensis* are unique in that they are highly sought after but prices have remained rather stable, likely due to them still being sold for food. They are still being found in relatively high numbers; although, for *P. sinensis* this is likely due to farmed turtles being released. For Indochinese Box Turtles (*Cuora galbinifrons*) and *M. sinensis*, the price increase happened quickly, as recent prices for both species were roughly \$60–100 USD/500 g and now the average price for these two species is roughly \$200–250 USD/500 g depending on quality of appearance.

TABLE 1. List of species accounts from four regions (abbreviation and the number of villages) based on interviews with local villagers. Species lists are divided into native and market released. Order of species is a rough estimate of species abundance from that region based on interviews and turtles presented.

Region	Native Species	Market Released Species
Bayi Plantation (BYP; 1)	<i>Mauremys sinensis</i> , <i>Pelodiscus sinensis</i> , <i>Mauremys mutica</i>	<i>Trachemys scripta elegans</i>
Limu Mountain (LMM; 9)	<i>Cuora mouhotii</i> , <i>Sacalia quadriocellata</i> , <i>Cuora galbinifrons</i> , <i>Platysternon megacephalum</i> , <i>Mauremys sinensis</i> , <i>Pelodiscus sinensis</i> , <i>Mauremys mutica</i> , <i>Cuora trifasciata</i> , <i>Palea steindachneri</i>	<i>Trachemys scripta elegans</i> , <i>Mauremys reevesii</i> , <i>Chelydra serpentina</i>
Wanling Field Station (HFS; 2)	<i>Cuora mouhotii</i> , <i>Sacalia quadriocellata</i> , <i>Pelodiscus sinensis</i> , <i>Cuora galbinifrons</i>	
Zhongping Town (ZPT; 1)	<i>Cuora mouhotii</i> , <i>Sacalia quadriocellata</i> , <i>Cuora galbinifrons</i> , <i>Pelodiscus sinensis</i> , <i>Platysternon megacephalum</i> , <i>Geoemyda spengleri</i> , <i>Mauremys sinensis</i> , <i>Mauremys mutica</i> , <i>Cuora trifasciata</i>	
Diaoluo Mountain (DLM; 2)	<i>Geoemyda spengleri</i> , <i>Cuora mouhotii</i> , <i>Sacalia quadriocellata</i> , <i>Cuora galbinifrons</i> , <i>Platysternon megacephalum</i> , <i>Mauremys mutica</i>	<i>Chelydra serpentina</i>



FIGURE 3. Abandoned fish pond that is reported to be habitat for Chinese Yellow Pond Turtle (*Mauremys mutica*) and Chinese Golden Thread Turtle (*Mauremys sinensis*). (Photographed by Daniel Gaillard).



FIGURE 4. Juvenile Golden Coin Turtle (*Cuora trifasciata*) collected near Limu Mountain, China. Both *C. trifasciata* were collected in the same area roughly 100 m apart. (Photographed by Daniel Gaillard).

Trapping.—Trapping efforts totaled about 7,240 trap days and resulted in the capture of nine turtles, representing seven species. In the LMM area, we captured two *Cuora trifasciata* (Fig. 4), one Reeves Pond Turtle (*Mauremys reevesii*), one *M. sinensis*, and one *C. galbinifrons*. In the HFS area, we collected two Four-eyed Turtles (*Sacalia quadriocellata*) and in the DLM region one Big Headed Turtle (*Platysternon megacephalum*) and one Common Snapping Turtle (*Chelydra serpentina*). The overall capture rate (including non-native species) in our study was 804 trap days per capture and the adjusted capture rate (excluding non-native species) was 1,034 trap days per capture. Of the seven species we captured, two are listed as Critically Endangered, three Endangered, and two species were non-native. The two non-native species are commonly found in food and pet markets in Hainan and are said to be occasionally collected by the

local villagers. The *C. serpentina* we caught was from a stream in Diaoluoshan Provincial Nature Preserve near the visitor's area; whereas, the *M. reevesii* was from an abandoned fish pond next to a natural forest in a rather rural area.

DISCUSSION

Among our regional village surveys, we found the BYP region to be the most distinct. Four of the five regions surveyed (LMM, HFS, ZPT, DLM) were mountainous regions and BYP was toward the coastline, relatively flat, and spotted with fish ponds. This difference in species accounts is likely due to the variation in geology (i.e., mountainous vs. plains) and the fact that in the BYP region study area the only extant suitable habitat for turtles is fish ponds, as a majority of the natural forests have been cleared for plantations.

TABLE 2. List price (USD/500 g) of wild caught individuals for each species in Hainan. Previous prices are based on prices from the previous 2–3 y, current prices reflect the 2015 market. Asterisks (*) denote price per animal instead of by weight.

Species	Sex	Previous Price/500 g	Current Price/500 g
<i>Cuora galbinifrons</i>	Both	\$50–85	\$200–270
<i>Cuora mouhotii</i>	Both	\$30–50	\$50–85
<i>Cuora trifasciata</i>	Male	\$20,000–25,000	\$33,000–40,000
	Female	\$11,000–15,000	\$16,000–20,000
<i>Geoemyda spengleri</i>	Both	\$16*	\$32–45*
<i>Mauremys mutica</i>	Both	\$200–300	\$500–600
<i>Mauremys nigricans</i>	Male	\$8,000–10,000 USD	~ \$80,000
	Female		~ \$50,000–60,000
<i>Mauremys sinensis</i>	Both	\$50–100	\$200–500
<i>Palea steindachneri</i>	Both	N/A	\$350
<i>Pelodiscus sinensis</i>	Both	\$50–100	\$150*
<i>Platysternon megacephalum</i>	Both	\$70–100	\$200–250
<i>Sacalia quadriocellata</i>	Both	\$50*	\$100–150*



FIGURE 5. (A) Bamboo turtle trap found inside Limushan Mountain Provincial Nature Preserve, China. Bamboo, metal, and pitfall traps were not an uncommon sight within the reserve. (B) *Cuora galbinifrons* (inset) caught within Limushan Mountain Nature Reserve, China, being weighed to sell to a local dealer. (Photographed by Daniel Gaillard).

Overall, the most common species presented to us by villagers in the mountainous areas were *C. mouhotii*, *S. quadriocellata*, and *C. galbinifrons* (except in the DLM region, see below). Two species that were never presented to us as live turtles in villages, but were shown as pictures taken upon capture, were *C. trifasciata* and *M. nigricans*. This is likely due to the high price for which villagers can sell these species; *C. trifasciata* sells for \$16,000–40,000 USD/500 g and *M. nigricans* for roughly \$80,000 USD/500 g. Once villagers collect these turtles, they are typically sold within 48 h; therefore, the likelihood of seeing one in person is extremely unlikely. Other than *C. mouhotii* and *P. sinensis*, wild caught turtles are mainly sold in the pet trade as the elevated prices have deterred their use as food items. *C. mouhotii* are the most common ingredient in local turtle soups, but the use of this species as food is even in decline as their prices have slowly increased. Interestingly, *G. spengleri*, which is the smallest species of turtle in China and one of the smallest in the world, can also be used to make turtle soup as they are said to make the soup sweet.

Only two (ZPT and DLM) of the five regions surveyed had *G. spengleri*. In ZPT, this species is rarely caught and most villagers have never seen one nor do they know what species it is. Villagers who are familiar with it refer to it as xiao ba jiao gui, literally meaning little eight-foot turtle, or in other words, little *C. mouhotii*. This species appeared to be the rarest turtle in our survey until our trip to the Diaoluo mountain region. We visited two villages in one day and 66 individual *G. spengleri* were shown to us. This number of individuals was surprising and most villagers told us they were

sold out of these turtles, but previously most of them had 20–40 in their possession. The main turtle dealer in the village had about 300 in July and only had about 90 individuals when we visited. The villagers said they only started collecting this species in 2016 and there was a certain method they used that was very efficient for collecting this species. We estimate the residents of this village collected over 500 turtles in 2016 alone. Although this is an alarming number of individuals, it is also encouraging because other areas probably have abundant populations too, but the villagers do not know how to collect them at these sites.

Our village survey of the ZPT region resulted in similar turtle species being presented to us as were found in Gong et al. (2006b). The major differences were that we did not find *C. trifasciata*, and we had two *M. sinensis* presented to us that were not found in the previous survey in this region. *Cuora trifasciata* are said to be extremely rare in this region now and the most recent capture was in 2014. We only went to the ZPT region for one day, but based on the stories of recently caught turtles and seeing seven turtles representing four species on our trip, it would appear there are current viable (albeit depleted) populations in that area despite human collection.

An earlier survey of the turtles of Hainan (Bruin and Artner 1999) found *C. mouhotii* and *C. galbinifrons* were the most common turtles encountered, roughly 150 individuals of each species. Although we never saw this many, in several villages these species were the most common turtles encountered. In the Bruin and Artner (1999) study, Qiongzong County also had the highest diversity of turtle species and the species they found still

exist in the wild today, suggesting this area was densely populated in the past. It is interesting to note that in their study 18 y previously, the authors only found nine *M. mutica* and the villagers told them it was rare then. In our study, we found 10 *M. mutica* locally caught in Hainan, all from Qiongzong County, but turtle dealers informed us they could also be found in LeDong and Qionghai counties. *M. mutica* was rare 18 y ago and is still rare today as it was one of only two native species for which we could not pinpoint the locality of a wild population. Given that previous research has shown Hainan *M. mutica* are genetically distinct from northern mainland *M. mutica* (Fong et al. 2007), we suggest special conservation plans be developed for native Hainan populations.

Although our trapping efforts yielded lower capture rates than the two previous studies (201 TD; Gong 2006a and 666 TD; Wan et al. 2015), our study resulted in the highest diversity of native species collected (five). The plausible reason for our increased diversity, could be due to our trapping efforts covering a broader geographic area and thus more habitat types. Similar to the previous studies, capture rates were extremely low, suggesting depleted turtle populations. However, one positive outcome of our village/field surveys was that we saw individuals or photos of all age classes for seven species (*C. galbinifrons*, *C. trifasciata*, *M. sinensis*, *S. quadriocellata*, *M. nigricans*, *G. spengleri*, and *P. megacephalum* suggesting potentially viable populations still existed 2–3 y ago and possibly still do. It should be noted that for the two CR species in our study (*C. trifasciata* and *C. galbinifrons*), age classes ranged from hatchlings (*C. galbinifrons*) to adults.

In our study, we were able to find evidence of 10 species known to be native to Hainan Island and found evidence that *M. nigricans* is possibly a native species on Hainan. This species was reported to be collected in Wenchang, Qionghai, Chengmai, Tunchang, and from Qiongzong County. A local turtle farmer in Tunchang, Mr. Chen, received *M. nigricans* from local villagers about 25 y ago when he began his farm. He claims they were wild caught and bought as mature animals. When interviewing local villagers, many were unfamiliar with this turtle; however, this could be because many villagers do not distinguish this turtle from *S. quadriocellata* due to the red coloration and the pungent odor. Local villagers call both species chou gui (Mandarin) or niao gui (Hainanese), which literally means smelly turtle. Other villagers were familiar with this turtle, and some older villagers remember catching them when they were younger and throwing them back because they smelled so bad that no one wanted them. These turtles are claimed to have been collected in many areas covering the central and eastern parts of the island over many

years. It is reported that juvenile to adult age classes are caught. We never encountered a villager who had personally collected one. We suggest further targeted surveys need to be conducted to clearly determine if *M. nigricans* naturally occurs on the island.

While, it is encouraging that the presence of all age classes for some species were observed and the fact that comparisons to previous surveys found comparable turtle capture data 13–18 y later, there is also discouraging information for the survival of turtles in the wild. From our interviews with local villagers, it appears that while they are cautious to offer information on turtles they currently have in their possession, they do not fear being caught while actually trapping turtles in the wild, even in protected forests. It is also not uncommon for park workers to sell animals they trapped within the park to supplement their income. For example, one trip to a village in the LMM region resulted in finding 11 *C. galbinifrons* that had been collected within the previous two weeks from within the nature reserve. One of the villagers (who trapped three in one day) was a worker in the nature reserve.

Gong et al. (2006b) and our current study find that law enforcement is severely lacking to non-existent in protected areas. Many of the villagers interviewed said they collect turtles from Limushan Mountain Provincial Nature Reserve and were not concerned with it being a protected area. Other villagers would take from local (county level) reserves without any regard for the law; however, local reserves are said to be better protected in that only the nearby villagers are allowed into these areas. Actually, it seems the most well protected areas for wildlife are found within military bases. Multiple sources told us turtles were found in a military base near Limushan Mountain Provincial Nature Reserve and that local villagers were not allowed in that area. We caught three of our turtles in ponds bordering this military base and the local villagers also catch several species of turtles, most notably, *C. galbinifrons* and *C. trifasciata*. The reported relatively higher turtle numbers inside the military base and the reluctance of many villagers to enter the base show that enforcement of the law can deter local trappers. Wan et al (2015) suggest that conservation officers at Yinggeling Reserve appear to do an adequate job of patrolling against poachers, and from our discussions with turtle dealers, it appears relatively few turtles are poached from Yinggeling because of strict enforcement. We understand it would be difficult, if not impossible, to patrol all areas in Hainan. Therefore, we suggest local authorities focus on certain regions for increased patrols. Zhongping Town and surrounding villages and villages surrounding Limu and Diaolu Mountain and the areas mentioned in previous studies (Gong et al. 2006a, 2006b; Wan et al. 2015) need to be patrolled.

One potential cause for the lack of enforcement is that on Hainan only three species are listed as nationally protected: *C. trifasciata*, *P. steindachneri*, and *G. spengleri*. The authors and other scientists have pleaded with the government to add all species of turtles to the protected list for many years. In 2016, this revised list was scheduled to be published. However, the three aforementioned listed species were previously collected and are still being collected and sold without much regard or fear of being punished by the authorities. In fact, these species are sold openly over the internet and on QQ (a popular social network in China). While listing all native species of Chinese turtles is a step in the right direction, without enforcement, it will not be effective.

Our current study, and previous studies on Hainan Island, are in agreement that turtle populations on Hainan are in decline. Therefore, we urge the state and provincial level forestry and agriculture departments and park officials to enforce the law. With such high monetary rewards, it is unlikely people will willingly change behavior without enforcement of the law and threat of punishment. To aid law enforcement agencies, plans are in place to develop education/training seminars for the local agriculture and forestry departments and with nature reserve officers in Hainan and other provinces.

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LITERATURE CITED

- Cheung, S., and D. Dudgeon. 2006. Quantifying the Asian turtle crisis: market surveys in Southern China, 2000–2003. *Aquatic Conservation: Marine and Freshwater Ecosystems* 16:751–770.
- De Bruin, W.F., and H.G. Artner. 1999. On the turtles of Hainan Island, southern China. *Chelonian Conservation and Biology* 3:479–486.
- Fong, J.J., J.F. Parham, H. Shi, B.L. Stuart, and R.L. Carter. 2007. A genetic survey of heavily exploited, endangered turtles: caveats on the conservation value of trade animals. *Animal Conservation* 10:452–460.
- Gong, S., H. Shi, C. Xie, C. Chen, and R. Xu. 2005. Spring habitat selection by Four Eye-spotted Turtle (*Sacalia quadriocellata*) in Limu Mountain of Hainan Island. *Zoological Research* 2:142–146.
- Gong, S., H. Shi, C. Xie, C. Chen, and R. Xu. 2006a. A survey of freshwater turtles in Jianfengling Nature Reserve, Hainan Province, China. *Chinese Journal of Society* 41:80–83.
- Gong, S., J. Wang, H. Shi, R. Song, and R. Xu. 2006b. Illegal trade and conservation requirements of freshwater turtles in Nanmao, Hainan Province, China. *Oryx* 40:331–336.
- Horne, B.D., C.M. Poole, and A.D. Walde. 2012. Conservation of Asian tortoises and freshwater turtles: setting priorities for the next ten years. Recommendations and conclusions from the workshop in Singapore, February 21–24, 2011. Wildlife Conservation Society Singapore, Singapore.
- International Union for Conservation of Nature (IUCN). 2015. The IUCN Red List of Threatened Species. Version 2015-3. Available at <http://www.iucnredlist.org>.
- Kai, M., L. Chuang, H. Shi, J. Wang, D. Liu, and J. Wang. 2013. Home range comparisons of exotic species *Trachemys scripta elegans* and native species *Mauremys sinensis* in the Qionghai section of the Wanquan River, Hainan Island, China. *Chinese Journal of Zoology* 48:331–337.
- Shi, H., and J.F. Parham. 2001. Preliminary observations of a large turtle farm in Hainan Province, People's Republic of China. *Turtle and Tortoise Newsletter* 3:4–6.
- Shi, H., J.F. Parham, Z. Fan, M. Hong, and F. Yin. 2008. Evidence for the massive scale of turtle farming in China. *Oryx* 42:147–150.
- Wan, J., B. Chan, C. Liao, H. Mi, M. Lau, F. Li, H. Wang, and Y. Sung. 2015. Conservation status of freshwater turtles in Hainan Island, China: Interviews and field surveys at Yinggeling Nature Reserve. *Chelonian Conservation and Biology* 14:100–103.
- Wang, J., S. Gong, H. Shi, Y. Liu, and E. Zhao. 2011a. Reproduction and nesting of the endangered Keeled Box Turtle (*Cuora mouhotii*) on Hainan Island, China. *Chelonian Conservation and Biology* 10:159–164.
- Wang, J., H. Shi, C. Xue, L. Wang, and E. Zhao. 2011b. Population densities of *Cuora galbinifrons* at Diaoluoshan Nature Reserve, Hainan Island, China. *Sichuan Journal of Zoology* 30:471–474.



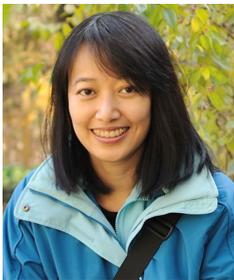
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SHU-JIN LUO received her Ph.D. in Conservation Biology from University of Minnesota, Minneapolis, USA, and then worked as a Postdoctoral Student at the U.S. National Institutes of Health, where she studied mammalian comparative phylogeography and population genetics in felids and other Asian species. In 2009, she became a Principal Investigator at Peking University and set up the Laboratory of Genomic Diversity and Evolution. She is broadly interested in the genetic basis of evolution and adaptation in animals. (Photographed by Jie Liang).