

**TRADE IN JAPANESE
ENDEMIC REPTILES
IN CHINA**

**AND RECOMMENDATIONS
FOR SPECIES CONSERVATION**

**KAHORU KANARI
AND LING XU**

A TRAFFIC REPORT



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Photograph credits: *Taku Sakoda* (background photo); *Taku Sakoda* (inset, top two photos); *Tomoko Suzuki/WWF Japan* (inset, bottom photo).

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by Kahoru Kanari and Ling Xu



Credit: Taku Sakoda

Kuroiwa's Ground Gecko *Goniurosaurus kuroiwa*, a Japanese endemic reptile seen in pet shops in Hong Kong

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EXECUTIVE SUMMARY

Eighty-seven species of reptile are currently recorded as living in the wild in Japan. Some of these species are designated as protected species under Japan’s national legislation for ecological or cultural reasons. While some of these species are traded internationally, clarifications are still needed regarding trade dynamics as well as the legal system regulating this trade. This report presents an overview of the Japanese domestic legal system with regard to Japanese reptiles and the trade in Japanese endemic reptiles in Hong Kong and key cities in mainland China, as these locations have been identified as key trade hubs for wildlife products and are geographically close to Japan and illustrative of the international trade from Japan.

Several Japanese laws give protection for wildlife in Japan. One of them is the *Law for the Protection of Cultural Properties* which states that activities that “change the existing state” of national “Natural Monuments” are prohibited. This law designates some Japanese endemic species as “Natural Monuments” in the interests of protecting culturally significant plant and animal species.

Despite such legal protection, this study highlights issues of illegal trade in specimens of Japanese endemic reptile species found for sale in pet shops and markets in Hong Kong and mainland China, as well as Chinese-language online trade websites. Through a survey of markets and shops, four of five focal species—Ryukyu Black-breasted Leaf Turtle *Geoemyda jaopnica*, Ryukyu Yellow-margined Box Turtle *Cuora flavomarginata evelynae*, Kishinoue’s Giant Skink *Plestiodon kishinouyei* and Kiroiwa’s Ground Gecko *Goniurosaurus kuroiwa*—were found mainly in Hong Kong, as well as potentially in Guangzhou. The two freshwater turtle taxa and Kuroiwa’s Ground Gecko were also found for sale on Chinese-language websites. Some of the animals on sale were found to be accompanied by declarations stating that they were wild-caught, and this was therefore in direct violation of Japanese domestic regulations.

Reptiles comprise a group for which various problems related to illegal trade have been noted in the past in Japan. In the case of freshwater turtles in particular, there is an urgent need for increased conservation measures to be taken, especially with regard to Japan’s endemic species.

Based on the findings of this study, TRAFFIC makes the following recommendations:

To the Japanese CITES Scientific Authority:

- The merits of submission of CITES listing proposals for Ryukyu Black-breasted Leaf Turtle, Ryukyu Yellow-margined Box Turtle, Kishinoue’s Giant Skink and Kiroiwa’s Ground Gecko should be considered and, in connection with this:
 - further research should be conducted concerning population status and levels of trade, to inform evaluation of the likely effectiveness of CITES listing, and selection of appropriate Appendix for each species; and
 - submission of listing proposals at the 16th meeting of the Conference of the Parties to CITES, should be urgently considered with a view to preventing further detrimental exploitation through international trade.

- Further long-term monitoring to understand better the relevant trade dynamics should be conducted and supported, including via market surveys in peak seasons of trade. Further investigation would be useful in markets such as Taiwan that are linked to Japan by frequent direct means of transport, as well as in other locations with an active reptile trade, to understand routes used and combat any illegal trade.
- Information to the destination Parties, specifically China, should be provided regarding Japan's domestic regulations to protect species, so that China and other market destinations can be aware of trade in imported wild specimens from Japan, that are fully protected by law in that country. In addition, the CITES Secretariat should be informed of a zero quota for the CITES Appendix-II listed Ryukyu Yellow-margined Box Turtle from Japan, so that all Parties to CITES recognize Japan's national regulation.
- Awareness of the biological status of Japanese endemic species, and regulations governing those species should be raised, including through engagement of relevant stakeholders and the general public, in areas around the species' habitat, trade routes and destinations.

To Japanese lawmakers:

- In order to preserve Japan's endemic reptile species, Japan should improve species conservation regulations to strengthen protection and conservation of the taxa themselves and wider biodiversity. Establishment of measures for conservation are recommended, including within the framework of the *Law for the Conservation of Endangered Species of Wild Fauna and Flora*. This would further strengthen existing protection measures for culturally important wild species.
- To prevent further damage to Japan's endemic threatened species populations, special measures for further restriction of international trade in Yellow-margined Box Turtle *Cuora flavomarginata*, such as imposing an import ban for foreign specimens of Common Yellow-margined Box Turtle *C. f. flavomarginata*, should be considered and made effective.

To law enforcement agencies and their administrative authorities:

- The effectiveness of Japan's domestic law enforcement should be strengthened. Even though existing legislation is strong, effective implementation and enforcement against illegal activities is crucial in order for the law to be effective. The fact that trade of endemic species supposedly protected in Japan occurs in foreign markets indicates illegal collection and illegal export. Strengthening of law enforcement at Japan's borders as well as in wild habitat is urgent. Regular monitoring of pet shops and markets or trade routes should be pursued to discern active and potential trade locations and sources of illegal animals for domestic and international trade.

- ✦ Organize capacity-building and training for law enforcement officers to increase awareness of regulations and to improve identification of species/subspecies.

To the authorities of destination markets—mainland China and Hong Kong

- ✦ Greater understanding is needed regarding the legislation of source countries for imported species in trade. Once the specimens in question have been taken abroad they are beyond the reach of the source country's domestic legislation, therefore it is essential to obtain cooperation from authorities regulating the destination markets. Pet shops and physical markets, as well as online trade, should be monitored to ensure they do not become hotbeds of illegal trade. In addition, any captive-bred claims should be closely checked and verified so that false documentation does not facilitate illegal trade in wild-captured specimens.

BACKGROUND

Japan has a rich array of native reptile species, with a total of 87¹ species, including some introduced, many of which are found nowhere else (Herpetological Society of Japan, 2012). On the islands of Nansei Shotō in the south-east (**Figure 1**) in particular, there are a number of species of reptile unique to the region, with some found on only one or a few islands. Some of these are designated as protected species under Japanese domestic law for ecological and/or cultural reasons, yet uncontrolled and illegal harvest and trade remains a threat to these unique examples of Japan's natural heritage.

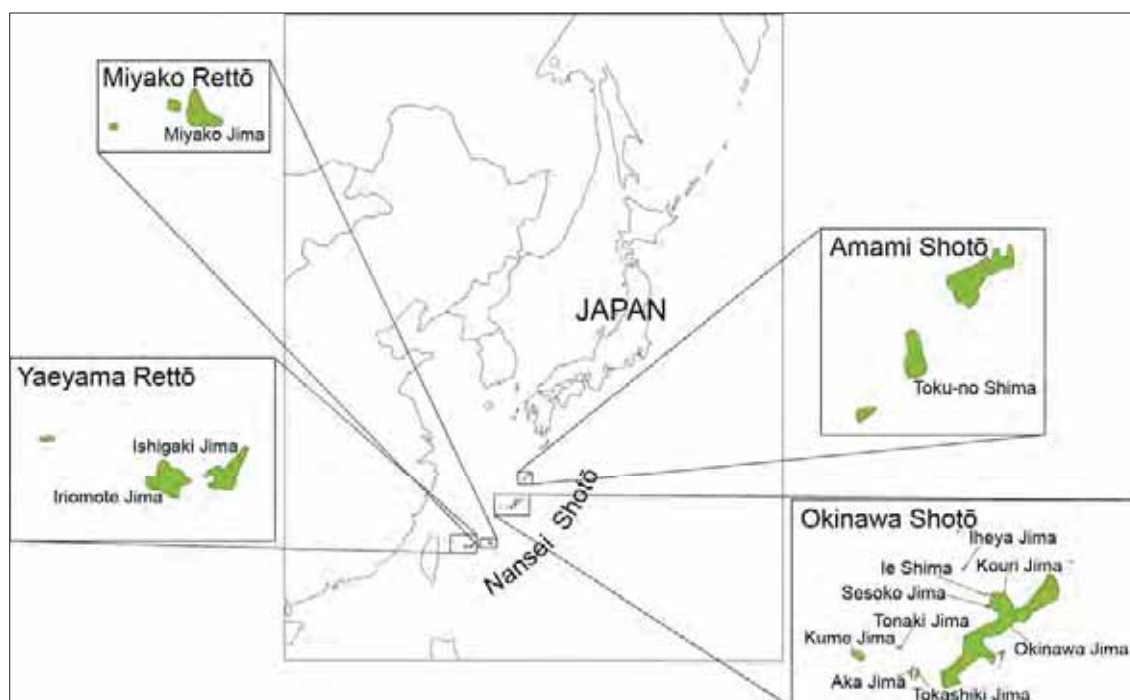


Figure 1.

Map showing the location of Nansei Shotō

In some cases, harvest and trade takes place in contravention of Japan's regulations. For example, in June 1993, reptiles including the endemic Kuroiwa's Ground Gecko *Goniurosaurus kuroiwa* were captured by an American national without permission and later discovered in a hotel room at an American military base in Japan (Ota, 2000). In North America, the endemic Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica* is traded in the pet market, commanding high prices due to its rarity (Lee, 2004). A Ryukyu Black-breasted Leaf Turtle was observed for sale on a French reptile trader's website in February 2011 (Anon., 2011). A specialist confirmed that three Ryukyu Black-breasted Leaf Turtles and a presumed Ryukyu Yellow-margined Box Turtle *Cuora flavomarginata evelynae* were on sale at a market in Hong Kong in March, 2011 (van Dijk, P.P. *in litt.*, 26 May 2011).

In addition to the above examples, TRAFFIC has received information from the USA that from 2004 to November 2011 the US border authority, the US Fish and Wildlife Service, cleared at least 30

¹ Including Cheloniidae spp., Hydrophiinae spp. and species introduced into Japan and now established in the wild. Excluding species without scientific names.

Ryukyu Black-breasted Leaf Turtles into the USA (US Fish and Wildlife Service, 2011). The number of individuals could be higher than reported, if imports were recorded as “non CITES reptiles”.

While there have been examples and indications that illegal international trade in Japanese protected reptiles has been taking place, until now details of the actual situation have been insufficient and further research and investigation have been required. In recent years, the remarkable economic growth of China has had significant impacts on global wildlife trade (Shepherd, 2000; The World Bank 2005; Gratwicke *et al.* 2008; Godoy *et al.* 2009). China has long been a major consumer of wildlife and the levels of consumption, the volumes of wildlife and the number of species involved, is increasing (Rabinowitz and Khaing, 1998; Lau *et al.* 2010). Additionally, China is increasingly playing a role as a transit point in the global wildlife trade chain, and a source of captive-bred wildlife and wildlife products (The World Bank 2005; Felbab-Brown, 2011). Efforts to produce native wildlife species through commercial captive-breeding operations in China are also increasing (Lam and Xu, 2008). Needless to say, China’s increasing significance in the global wildlife trade arena has had significant effects on the wildlife trade dynamics in neighbouring Japan. In these rapidly changing times, there is an urgent need to investigate and to understand the actual situation with respect to how and where Japanese endemic species are being traded, in order to respond accordingly.

This report provides an overview of the present situation of wildlife trade control under the existing legal system in Japan with a focus on Japanese endemic reptiles. At the same time, an attempt is made to illustrate the current levels of international trade, using China’s market as a case study example.



Credit: Taku Sakoda

Yambaru forest, Okinawa Jima (see Figure 1)

METHODS

Five sites were selected for surveying, including Hong Kong and four cities in mainland China—Beijing, Tianjin, Shanghai and Guangzhou (see **Figure 2**). These sites were selected for study because they have been identified as key trade hubs for wildlife products, geographically close to Japan and illustrative of the international trade from Japan. Also, Hong Kong has been identified as a location with pet shops and markets selling Japanese endemic reptile species.

Focal species

Five reptile species or subspecies endemic to Japan were the focus of this study:

1. Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica*
2. Ryukyu Yellow-margined Box Turtle *Cuora flavomarginata evelynae*
3. Kishinoue's Giant Skink *Plestiodon kishinouyei*
4. Kuroiwa's Ground Gecko *Goniurosaurus kuroiuae* sspp.
5. Miyako Grass Lizard *Takydromus toyamai*

Although the common name Kuroiwa's Ground Gecko technically only refers to one of five subspecies, in this report the name is used to refer at species level, apart from where sub-specific common names are given, for example in **Box 1**.



Credit: Taku Sakoda

Kuroiwa's Ground Gecko *Goniurosaurus kuroiuae kuroiuae*

These reptile taxa were selected because they are endemic to Japan and threatened in the wild. The species are all classified as threatened species in Japan's Red List and in the IUCN Red List, the Miyako Grass Lizard being categorized as Critically Endangered in the former. Capture of the other four species has been prohibited, but research on international trade in these species has been limited until now. **Box 1** contains descriptive details for each species.

National legislation

A review of Japan's current legislation with respect to the protection and trade in native reptiles was carried out. Further information with regards to implementation and enforcement of these relevant pieces of legislation was gathered through a study of existing published literature and through formal and informal interviews carried out with relevant departments and individuals.

Trade data collection

Information on the trade in reptiles, focusing on the selected key species, was collected for analysis from published and unpublished literature, through formal and informal interviews with experts and other relevant parties. Based on these findings, market surveys were carried out in Hong Kong and mainland China (see **Figure 2**). Online Chinese-language trade markets were also surveyed.

Shop and market research

Surveys were carried out in the selected cities December 2011–March 2012, although winter is usually a period with a low volume of trade. Wildlife markets and shops in each city were visited once and the presence/absence of the above-listed Japanese endemic reptiles was noted.

Three of the focal species—Ryukyu Black-breasted Leaf Turtle, Kishinoue's Giant Skink and Ryukyu Yellow-margined Box Turtle—were considered highest priority owing to their legal status in Japan and, therefore, if the researchers did not find them on sale, staff on duty were questioned as to whether the shop sold them or not.



Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica* (left) and Ryukyu Yellow-margined Box Turtle *Cuora flavomarginata evelynae* (right)

Credits: Taku Sakoda (left);
Tomoko Suzuki/WWF Japan (right)

Survey date, shop name and address, species name, number of individuals, size, price, origin, and source (wild-caught or captive-bred) were recorded from either appearance, labels displayed or sales staff statements in response to questioning. If possible, photos of the specimens were taken. One or two researchers with experience in species identification conducted surveys in each city.

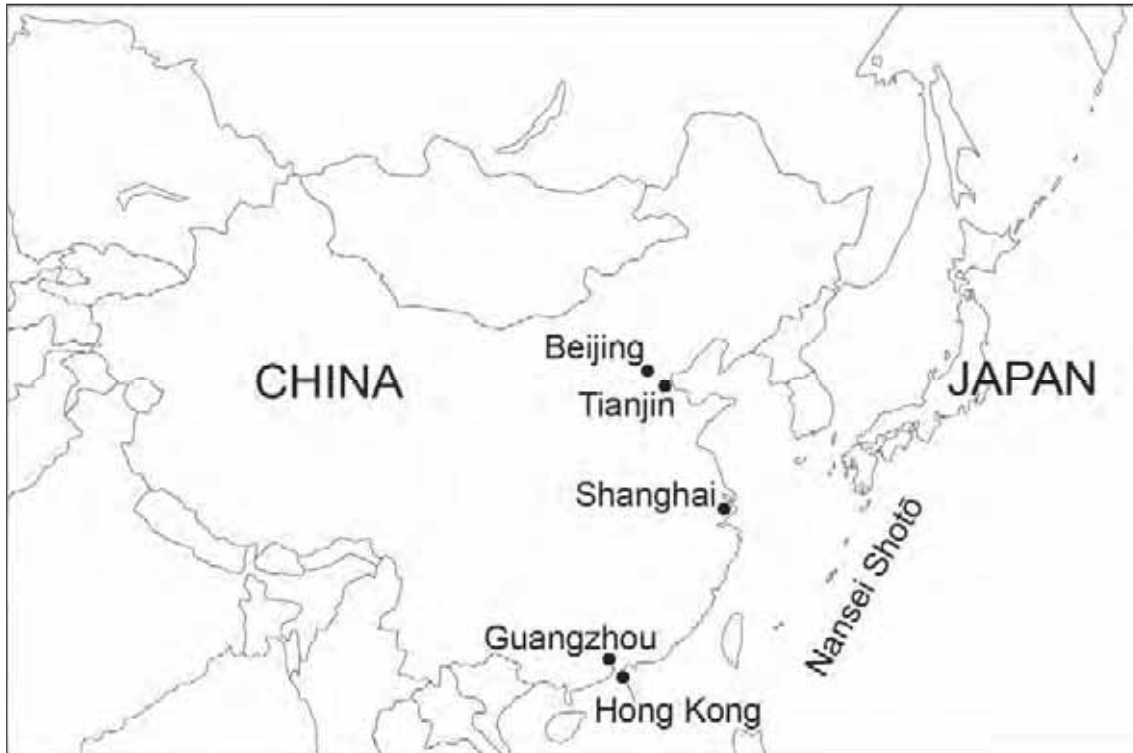


Figure 2

Map showing the location of Hong Kong, the four mainland Chinese cities surveyed, and Nansei Shoto

Online trade survey

Surveys of online Chinese-language trade sites in mainland China and Hong Kong were conducted. Firstly, a pre-survey of the online trade was carried out on Chinese pet websites, which helped to identify key websites offering to sell the target species. During the survey, the Chinese names of target species were used as key search words. The price, source, size, and gender of target species offered were recorded, as well as specific web links and traders' personal information, including phone number, website identification number and other contacts. On 13–14 February 2012, three key websites (pctx.com forum; reptilesworld.com forum; and chineseturtle.com forum) were surveyed in mainland China and on 7–12 February 2012, five key websites (HK turtle forum; Uwants forum; Reptiles.hk forum; Reptilianhk; and Green-park forum) were surveyed in Hong Kong.

Box 1. Focal species surveyed

Ryukyu Black-breasted Leaf Turtle *Geoemyda japonica*

Distribution: Endemic to Japan—Okinawa Jima, Tokashiki Jima and Kume Jima (Yasukawa and Ota, 2008). Maximum range areas on each island are 300km², 5km² and 10km², respectively (Ministry of Environment, 2000)

Biology: Lives in terrestrial habitats with damp forest floors, such as along the banks of mountain streams (Ministry of Environment, 2000). Eats plant buds, nuts and berries, earthworms, insects, land snails. In captivity, females produce only a single or two eggs at one time and appear to lay egg(s) more than once a year, during summer (Ota and Hamaguchi, 2003).

Conservation status: There is concern over the reduction in the distribution of this species due to changes in its habitat, land use and illegal capture (Ministry of Environment, 2000; Ota and Hamaguchi, 2003).

Red List: Threatened II² (Vulnerable) in Japan's Red List 2012 (Ministry of Environment, 2012a): Endangered in IUCN Red List (published in 2000, needs updating) (IUCN, 2012)

Ryukyu Yellow-margined Box Turtle *Cuora flavomarginata evelynae*: (CITES Appendix II listed)

Distribution: Endemic to Japan—Ishigaki Jima and Iriomote Jima in the Yaeyama Rettō. (The other subspecies of *C. f. flavomarginata* lives in Taiwan and in the eastern region of mainland China (Ota *et al.*, 2009).) Maximum range areas of each island are 30km² and 250km², respectively (Ministry of Environment, 2000).

Biology: Lives in terrestrial habitats with damp forest floors such as along the banks of mountain streams. Eats nuts and berries, insects, small animals and carrion. Appears to produce between one and three eggs at one time and multiple clutches are produced per season and reportedly total 5–9 eggs a year (Ota *et al.*, 2009).

Conservation status: This species is considered endangered and is threatened by deforestation, mortality caused by road deaths and illegal capture for the pet trade. Ingression by competitor species, such as the introduced Cane Toad *Bufo marinus*, is also a concern (Ministry of Environment, 2000). Reductions in distribution and population size have been observed (Ministry of Environment, 2000).

Red List: Threatened II (Vulnerable) in Japan's Red List 2012 (Ministry of Environment, 2012a): Endangered (at species level) in the IUCN Red List published in 2000, although this needs updating (IUCN, 2012)

Kishinoue's Giant Skink *Plestiodon kishinouyei*

Distribution: Endemic to Japan—to most islands of the Miyako Rettō and the Yaeyama Rettō group (Ministry of Environment, 2000)

Biology: Japan's largest lizard, it lives in comparatively open environments such as grassland. Eats other lizards and frogs in addition to insects. Makes ground nests in which it lays eggs. (Ministry of Environment, 2000).

² Japan's national Red List categorizes species as: Extinct (EX), Extinct in the wild (EW), Threatened IA (CR), Threatened IB (EN), Threatened II (VU), Near threatened (NT), Data deficient (DD) and Threatened Local population (LP). Each categories conforms to IUCN's categories (Ministry of Environment, 2012b).

Conservation status: Comparatively resistant to land development, but some populations are at risk due to the introduction of exotic predators, such as the Japanese Weasel *Mustela itatsi* and the Indian Peafowl *Pavo cristatus* (Ota, Hidetoshi *in litt.* to TRAFFIC, August 2012).

Red List: Threatened II (Vulnerable) in Japan's Red List 2012 (Ministry of Environment, 2012a): Lower Risk/near threatened in the IUCN Red List published in 1996, which needs updating (IUCN, 2012).

Kuroiwa's Ground Gecko *Goniurosaurus kuroiwae*

Distribution: Endemic to Japan

(subspecies) Kuroiwa's Ground Gecko *G. k. kuroiwae*: Okinawa Jima, Kouri Jima and Sesoko Jima in the Okinawa Shotō. Maximum range areas of each island are 415km², 1km² and 2km², respectively (Ministry of Environment, 2000).

Spotted Ground Gecko *G. k. orientalis*: Tonaki Jima, Tokashiki Jima, Aka Jima and Ie Shima in the Okinawa Shotō

Banded Ground Gecko *G. k. splendens*: Toku-no Shima in the Amami Shotō

Toyama's Ground Gecko *G. k. toyamai*: Iheya Jima in the Okinawa Shotō

Yamashina's Ground Gecko *G. k. yamashinae*: Kume Jima in the Okinawa Shotō (Grismer *et al.*, 1994; Kagoshima Prefecture, 2009; Okinawa Prefecture, 2006).

Biology: Seen in and around evergreen broadleaf forest habitat. Eats spiders, insects, centipedes and other bugs. Produces on average two eggs, two or three times during the laying period from May to August (Ministry of Environment, 2000; Okinawa Prefecture, 2006).

Conservation status: Reduction in population size in many areas is recognized due to decreasing habitat area and illegal capture from the wild (Ministry of Environment, 2000).

Red List:

(subspecies) Kuroiwa's Ground Gecko: Threatened II (Vulnerable) in Japan's Red List 2012

Spotted Ground Gecko: Threatened IB (Endangered) in Japan's Red List 2012

Banded Ground Gecko: Threatened IB (Endangered) in Japan's Red List 2012

Toyama's Ground Gecko: Threatened IA (Critically Endangered) in Japan's Red List 2012

Yamashina's Ground Gecko: Threatened IA (Critically Endangered) in Japan's Red List 2012

(Ministry of Environment, 2012a)

Species as a whole: Endangered in the IUCN Red List published in 2010 (IUCN, 2012).

Miyako Grass Lizard *Takydromus toyamai*

Distribution: Endemic to Japan—Miyako Rettō

Biology: Lives in bright grassland habitats. Produces eggs several times a year, usually producing two eggs at a time (Ministry of Environment, 2000).

Conservation status: Habitat changes and the introduction of exotic predators such as the Japanese Weasel and the Indian Peafowl are threats. Populations are declining rapidly in places where the presence of these predators has been confirmed. There is also concern that they are being captured for the pet trade (Ministry of Environment, 2000).

Red List: Threatened IA (Critically Endangered) in Japan's Red List 2012 (Ministry of Environment, 2012a): Endangered in the IUCN Red List published in 2010 (IUCN, 2012)

Species names in this report are based on nomenclature used in IUCN Red List (<http://www.iucnredlist.org/>, viewed on 17 August 2012). English common names of Yellow-margined Box Turtle *Cuora flavomarginata* are based on Ota *et al.* (2009).

Exchange rates used in this report are from Mitsubishi UFJ Research & Consulting Co. Ltd., *Foreign Exchange Quotations. Daily Exchange Quotations in the Past*. Available at: <http://www.murc.jp/fx/exchange.html>, viewed on 25 July 2012. Exchange rates as of 6 February 2012: 1HKD=9.87JPY; 1CNY=12.13JPY; 1USD=76.52JPY.

RESULTS

International convention and national Japanese legislation on trade in reptiles

International trade in certain wildlife species is regulated through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), to which Japan is a Party. The national laws that currently regulate trade in the surveyed species are two CITES-implementing national laws, the *Foreign Exchange and Foreign Trade Control Law* and the *Customs Law*, as well as the *Law for the Protection of Cultural Properties*. In addition Japan has the *Law for the Conservation of Endangered Species of Wild Fauna and Flora* (LCES) which regulates domestic trade in wildlife. The regulatory status of each species featured in this report is shown in **Table 1**.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (for Japan: Treaty No. 25 of 1980)

CITES is a multilateral treaty aimed at protecting endangered species of wild fauna and flora so that international trade in these species does not threaten their continued survival in the wild (CITES, 2012a). Under CITES, species of wild fauna and flora that are considered in need of protection are classified and placed in one of three lists called Appendices I, II and III, and international trade in each species is regulated as required in accordance with its listing. The Convention entered into force in 1975 and 176 States were Parties as of 22 September 2012 (CITES, 2012a). Japan became a Party to CITES in 1980 (Ministry of Economy, Trade and Industry, 2012).

In Japan, as the CITES-implementing legislation, the *Foreign Exchange and Foreign Trade Control Law* (Act No. 228 of 1 December 1949) and the *Customs Law* (Act No. 61 of April 1954) contain provisions for determining and regulating the import/export procedures for executing CITES at the nation's borders.

The Law for the Protection of Cultural Properties (Act No. 214 of 30 May 1950)

This law aims at preservation and promotion of “cultural properties” or cultural heritage including tangible, intangible, folk or buried cultural properties, historic or scenic sites, natural monuments, important cultural landscape and groups of traditional buildings in Japan, and the cultural

improvement of its citizens. As a category of cultural property, this law designates certain wildlife species that have high value to the nation historically and/or scientifically as “Natural Monuments” and mandates their protection. It prohibits anyone to “change the existing state” of “Natural Monuments” including through capture, transfer, or trade. In order to conduct any of these activities on “Natural Monuments”, one must obtain permission from the Commissioner for Cultural Affairs (Article 125). Of the five focal species, three species (subspecies), namely the Ryukyu Black-breasted Leaf Turtle, the Ryukyu Yellow-margined Box Turtle and Kishinoue’s Giant Skink, are designated as national “Natural Monuments”. In addition, there are also cases in which local authorities have designated local “Natural Monuments” by local ordinances. All sub-species of Kuroiwa’s Ground Gecko have been designated as prefectural protected species by either Okinawa Prefecture or Kagoshima Prefecture (Fujukan, University Museum of University of Ryukyus, 2012; Kagoshima Prefecture, 2012).

Table 1

Legal status of the five focal species

| | Ryukyu Black-breasted Leaf Turtle | Ryukyu Yellow-margined Box Turtle | Kishinoue’s Giant Skink | Kuroiwa’s Ground Gecko | Miyako Grass Lizard |
|------------------------------|--|--|--------------------------------|--|----------------------------|
| CITES | not listed | Appendix II as species | not listed | not listed | not listed |
| LCES of Japan | not designated | not designated | not designated | not designated | not designated |
| Natural Monument designation | designated 26/6/1975 | designated 15/5/1972 | designated 26/6/1975 | Prefectural Natural Monument of Okinawa (Okinawa population: 9/11/1978) Prefectural Natural Monument of Kagoshima (Kagoshima population: 22/4/2003) | |

Source: Agency for Cultural Affairs (2012); Fujukan, University Museum of University of Ryukyus (2012); Kagoshima Prefecture (2012).

The Law for the Conservation of Endangered Species of Wild Fauna and Flora (LCES) (Act. No. 75 of 5 June 1992)

This national law is used for the conservation and preservation of species of wild fauna and flora. It designates national and international “endangered species of wild fauna and flora” and regulates their hunting/collection or trade, protection of habitat, and promotion of reproduction. “International endangered species of wild fauna and flora” are defined as those species listed in Appendix I of CITES or species reported in bilateral conventions and agreements for the protection of migratory birds, while “national endangered species of wild fauna and flora” are defined as those threatened in the wild because their living conditions are affected by human activities. In the case of species designated as “endangered species of wild fauna and flora”, display for the purpose of sale and trade

including giving or receiving, buying or selling, and lending or borrowing are prohibited in principle except for in certain circumstances, which are regulated by a registration process. Regarding “national endangered species of wild fauna and flora”, this law prohibits in principle activities including hunting, collection, killing, wounding or damaging. Only one reptile species, Kikuzato’s Brook Snake *Opisthotropis kikuzatoi*, is designated as a “national endangered species of wild fauna and flora”. None of the species covered in the survey are currently listed in Appendix I of CITES, so they are not subject to the provisions of *LCES*. Species listed in Appendix II and III of CITES are not covered by *LCES* and there is no domestic trade regulation applicable.

Permission to be exempted from the regulations of the Law for the Protection of Cultural Properties

Only 11 exemptions to these regulations of the *Law for the Protection of Cultural Properties* have been granted between 2001 and 2012 with regard to species covered by this survey (Agency for Cultural Affairs *in litt*, 8 March 2012 to TRAFFIC). These cases involved Kishinoue’s Giant Skink (three cases), Ryukyu Yellow-margined Box Turtle (one case), and Ryukyu Black-breasted Leaf Turtle (nine cases) (there is a species overlap in some cases). Among these 11 cases, 10 involved applications for permission by public agencies, while the remaining case involved an application from a zoo. The majority of applications sought permission to release animals that had been caught in traps set to capture the invasive and problematic Small Asian Mongoose *Herpestes javanicus* (six cases), while others involved permission to handle living animals when a helipad was relocated in accordance with the return of a US military base in Okinawa to Japanese control, or to capture individual animals temporarily for academic research purposes.



Credit: Jun Mima/WWF Japan

Yambaru Forest, Okinawa, Nansei Shoto

According to the Agency for Cultural Affairs, from the time the species covered by this survey were designated as protected species up to the present, the Agency has not given permission to alter the present condition of any for commercial or trade purposes (Agency for Cultural Affairs, private correspondence, 8 March 2012). Therefore, there is no possibility that any individuals of these species have been supplied for commercial trade legally.

Regulations in mainland China and Hong Kong

In China, if a non-native species is listed in CITES Appendix I, it will be regarded as a national first-class protected animal, for which commercial trade in China is strictly prohibited except when there is special approval from the central government. If a non-native species is listed in CITES Appendix II, it will be regarded as a national second-class protected animal, for which commercial trade in China is strictly controlled and needs the special approval from the provincial government (Wan, 2004). If a species has not been listed in the CITES Appendices, China has no obligation to stop its import or domestic trade, but the Inspection & Quarantine department needs some quarantine certifications from importers.

In Hong Kong, there are two pieces of legislation that are directly related to wild animal conservation. One is the *Wild Animals Protection Ordinance* that offers protection to listed local wild species. The other is the *Protection of Endangered Species of Animals and Plants Ordinance* that covers CITES-listed species (Department of Justice, 2012). Yellow-margined Box Turtle is in CITES Appendix II and import/export and possession of this species is controlled under this ordinance. However there are certain exemptions (Department of Justice, 2012). For any species protected in Japan but not listed in the CITES Appendices, there is no regulatory coverage in Hong Kong (Lau, Michael *in litt.* to TRAFFIC on 26 September 2012).

Number of focal species observed in shops in China

During surveys carried out, four of the five focal species—the Ryukyu Black-breasted Leaf Turtle, the Ryukyu Yellow-margined Box Turtle, Kishinoue’s Giant Skink and Kuroiwa’s Ground Gecko—were observed being offered for sale in shops, with the majority found in Hong Kong (**Table 2**)

Table 2

Number of focal species observed in the shops (no. of individuals)

| | No. shops visited | Ryukyu Black-breasted Leaf Turtle | Ryukyu Yellow-margined Box Turtle | Kishinoue’s Giant Skink | Kuroiwa’s Ground Gecko | Miyako Grass Lizard |
|-----------|-------------------|-----------------------------------|-----------------------------------|-------------------------|------------------------|---------------------|
| Beijing | 16 | - | - | - | - | - |
| Shanghai | 14 | - | - | - | - | - |
| Tianjin | 7 | - | - | - | - | - |
| Guangzhou | 16 | 0 ^{*1} | (1 ^{*2}) | - | - | - |
| Hong Kong | 21 | 31 ^{*3} | 2 | 3 | 3 | - |

In cases where the number of individuals was unclear, it is recorded as 1.

*1: Answered that the shop handles this species only in summer.

*2: The owner claimed the individual was a Ryukyu Yellow-margined Box Turtle, but it appeared to be the subspecies from Taiwan based on its physical appearance, price and statements of shop staff

*3: This figure includes 30 individuals allegedly kept for breeding in order to sell their offspring.

Thirty-one Ryukyu Black-breasted Leaf Turtles were observed including 30 individuals allegedly kept specifically for breeding, in two shops in Hong Kong. In addition, a shop in Guangzhou and two

more shops in Hong Kong responded that they accepted orders for this species. The shop in Guangzhou said they handled this species only in summer. Two Ryukyu Yellow-margined Box Turtle were observed in two shops in Hong Kong and one Ryukyu Yellow-margined Box Turtle was observed for sale in Guangzhou, however it appeared to be mis-identified—and was likely to be the other subspecies of Common Yellow-margined Box Turtle *C. f. flavomarginata*, from Taiwan, given its physical appearance, price and statements made by shop staff. Two more shops in Hong Kong responded that they accepted orders. Three Kishinoue’s Giant Skink in two shops and three Kuroiwa’s Ground Geckos in one shop were observed, both in Hong Kong. The shop offering Kuroiwa’s Ground Geckos said they also accepted additional orders.

It is particularly noteworthy that in many instances owners answered that they did not have many products during the winter season when the survey was conducted, as in many places in China the reptile market becomes more active in summer. Information on the number of individuals sold per year was not available from this survey.

Number of focal species observed in Chinese-language websites

Surveys of online trade in Chinese-language websites (in Hong Kong and mainland China) found the Ryukyu Black-breasted Leaf Turtle, the Ryukyu Yellow-margined Box Turtle and Kuroiwa’s Ground Gecko to be available for sale (Table 3).

Table 3

Number of individuals advertised for sale online (numbers in brackets indicate the number of users posting advertisements)

| | Date | Ryukyu Black-breasted Leaf Turtle | Ryukyu Yellow-margined Box Turtle | Kishinoue’s Giant Skink | Kuroiwa’s Ground Gecko | Miyako Grass Lizard |
|----------------|-------------|-----------------------------------|-----------------------------------|-------------------------|------------------------|---------------------|
| Mainland China | 14/12/2011 | - | 3 (2) | - | - | - |
| Mainland China | 3-14/2/2012 | 2 (2) | 8 (7) | - | 1 (1) | - |
| Hong Kong | 7-12/2/2012 | 5 (2) ^{*1} | 4 (2) | - | 13 (1) | - |

In cases where the number of individuals was unclear, it is recorded as 1.

*1: In addition, there were two advertisements from people seeking to make purchases.

Prices of focal species in China

Prices of focal species in China were recorded in the shops and online websites (Table 4). The two freshwater turtle species were for sale at higher prices than other focal species. The most expensive individual, a Ryukyu Yellow-margined Box Turtle observed for sale in a pet shop in Hong Kong, was priced at HKD100 000 (JPY987 000; USD12 899). Prices for Kuroiwa’s Ground Geckos were stable, with less variation between individuals. Prices of Kishinoue’s Giant Skinks were the lowest among those of the focal species.

Table 4**Price ranges of each reptile species on sale**

| Species name | No of data* | Highest price | Lowest price |
|-----------------------------------|-------------|--|------------------------------------|
| Ryukyu Black-breasted Leaf Turtle | 5 (2) | HKD40 000; (JPY394 800); (USD5159) | CNY9000; (JPY109 170) (USD1427) |
| Ryukyu Yellow-margined Box Turtle | 10 (5) | HKD100 000; (JPY987 000); (USD12 899) | CNY800; (JPY9 704); (USD129) |
| Kishinoue's Giant Skink | 3 (3) | HKD a few hundreds; (JPY a few thousands); (USD a few tens) | HKD60; (JPY592); (USD8) |
| Kuroiwa's Ground Gecko | 16 (16) | HKD5800; (JPY57 246); (USD748) | HKD2800; (JPY27 636); (USD361) |

* Numbers in brackets are the number of actual sales price data.

Origin and source

The origin and the source of each individual were recorded where available, in shops and online websites (**Table 5**). The source of Ryukyu Black-breasted Leaf Turtles (six individuals) was Japan. Among them, three individuals were claimed to be wild-caught and the origin of the other three was not revealed. The origin of stocks of Ryukyu Yellow-margined Box Turtles was said to be Japan, mainland China and Taiwan. Those from mainland China and Taiwan were claimed to be captive-bred. The origin of Kuroiwa's Ground Geckos throughout the survey was said to be captive-bred stock from the European Union. All Kishinoue's Giant Skinks on display were claimed to be of Japanese origin. Some of them were declared as captive-bred, while at least two were declared as wild-caught.

Table 5**Origin and process of obtaining for each species on sale**

| Species name | Indicated origin, (source), and no. of individuals |
|-----------------------------------|--|
| Ryukyu Black-breasted Leaf Turtle | Japan (F1) 1/Japan (WC) 3/Japan (-) 2 |
| Ryukyu Yellow-margined Box Turtle | Japan (F1) -/Japan (-) 8/Taiwanese breeder (CB) on demand/Japan (CB) 2/China (CB) - +1/Japan (WC) 1 |
| Kishinoue's Giant Skink | Japan (CB) -/Japan (WC) 2 |
| Kuroiwa's Ground Gecko | Europe (CB) 3/- (CB) 13/Europe (-) - |

CB: captive bred; WC: wild caught; F1: captive bred offspring of wild caught parents

In cases where the number of individuals or the process by which they were obtained is unclear, this is indicated by "-".

DISCUSSION

Observations made during this study confirm that Japanese endemic reptiles are being traded in shops and online in Hong Kong and mainland China. Four of the five focal species examined in this study were found in trade, with only the Miyako Grass Lizard being absent. The trade in these focal species was reported as seasonal, with the peak being in the northern hemisphere's summer months and low trade activity occurring during the winter months. There were also significant levels of online trade, suggesting the reptile species are readily available. The freshwater turtles observed commanded higher prices than the lizards. "Captive-bred" Kuroiwa's Ground Geckos and "wild-caught" Kishinoue's Giant Skinks commanded far lower prices.

The presence of these species in illegal and unmonitored trade raises particular concern as to the impact on their wild populations. Demand and harvest pressure on wild populations was found to be persistent even during low season, especially for the freshwater turtle species. Given all focal species are highly restricted-range endemics of the Nansei Shotō region of Japan (Deda *et al.*, 2004), all are susceptible to over-exploitation. Most have been totally protected for decades, but are still classified as threatened in the IUCN Red List and Japan's Red List and have even been re-classified with higher-threat categories in the most recently published national Red List for Japan (Ministry of Environment, 2012a). It is clear that uncontrolled capture and trade can easily affect survival chances for the species, as evidenced by their declining populations. There are previous cases where species endemic to isolated islands have faced extinction as a result of their capture from the wild in response to demand for trade (e.g. Deda *et al.*, 2004; Shepherd and Ibarondo, 2005). This outcome must be prevented through strict application of *in-situ* protection, trade control and law enforcement measures.

Observations of those species listed under the provisions of the *Law for the Protection of Cultural Properties*, clearly highlight the fact that reptiles are being illegally captured in Japan and smuggled internationally for sale, or for use as commercial breeding stock. This highlights the need for increased monitoring and enforcement in Japan, as well as in the selected country of destination for this study, China. With regard to trade routes, this survey was unable to clarify whether the focal species sold in mainland China and Hong Kong were transported directly from Japan or indirectly via other regions. The origin of the focal species, the islands of Nansei Shotō, are connected to foreign destinations such as Shanghai and Hong Kong by air routes directly from Naha on the island of Okinawa Jima, and also with Shanghai by sea routes via Taipei (Okinawa Prefecture, 2011).

The enforcement of the *Law for the Protection of Cultural Properties* in the case of the Ryukyu Yellow-margined Box Turtle has been shown to be complicated, and issues of domestic trade have been highlighted as a concern (Kameoka and Kiyono, 2005; Kanari, 2010), especially with regard to the difficulties in distinguishing between various subspecies. Yellow-margined Box Turtles are imported into Japan legally as pets, mainly from mainland China, or sometimes from Hong Kong, or from Kazakhstan through Lebanon at a rate of one-to-three hundred individuals per year (CITES, 2012b), although these animals are considered to be the subspecies *flavomarginata*. As LCES does not cover Appendix-II or -III species of CITES, Japan does not have regulations governing domestic trade in this foreign subspecies after import has occurred. The trade in this non-native subspecies not

only makes enforcement of the *Law for the Protection of Cultural Properties* for the native Ryukyu subspecies difficult, it also threatens the genetic identity of the Japanese subspecies through interbreeding (Ota and Hamaguchi, 2003). For these reasons it is considered necessary comprehensively to reconsider the management of this species, including through the possibility of harmonization with other regulations such as *LCES*.

The only Japanese legislation presently in effect for any of the focal species is the *Law for the Protection of Cultural Properties*. Under *LCES*, none of the five species are subject to regulation, not even the CITES Appendix-II listed *C. flavomarginata*, and not even the species listed as Critically Endangered in Japan's Red List. In other words, there are no protection measures in place specifically for the conservation of these species. It is necessary to consider species conservation and to take effective measures for species assessed as being threatened in the Japan's Red List and the IUCN Red List, especially for those with limited range and distribution.

Reptiles, especially tortoises and freshwater turtles, have been identified as a problematic and controversial species group in terms of illegal trade issues, with urgent need for improved regulation and enforcement efforts (see, for example, Kameoka and Kiyono, 2005 and Shepherd and Nijman, 2008). Internationally, conservation measures need to be strengthened in particular for Asian tortoises and freshwater turtles, as these are subject to low reproduction rates and various external factors that are causing their populations to decline (Kameoka and Kiyono, 2005; Horne *et al.*, 2011). Under CITES, the protection of and trade in tortoises and freshwater turtles was taken up in *Resolution Conf. 11.9* (revised at the 13th meeting of the Conference of the Parties, see **Annex**), which urged multi-faceted actions, including the strengthening of law enforcement in the range countries and importing and exporting countries, and the conducting of biological research and evaluation. At the 61st meeting of the CITES Standing Committee, held in August 2011, the Working Group on Tortoises and Freshwater Turtles (WGTFT) decided once again to gather information and identify tasks required to deal with this issue (CITES, 2012c). The IUCN/SSC Tortoise and Freshwater Turtle Specialist Group (TFTSG) held a workshop in Singapore and as a resolution of that meeting a recommendation was made for the listing of the Ryukyu Black-breasted Leaf Turtle and the Yellow-Margined Box Turtle in Appendix I of CITES (Horne *et al.*, 2011).

CITES-listing is potentially a useful mechanism by which Japan can gain assistance from and co-operation with other CITES Parties for the protection of these species. In cases where international demand threatens the species despite Japan's total protection, CITES can help with further monitoring and bilateral or multilateral combating of illegal trade. Listing in any one of the Appendices has a different regulatory effect on international trade: given that Japan has already established total protection for the focal species of this study, including disallowing capture and trade, an Appendix-I listing could work effectively, but is only possible if species meet the biological criteria for such listing. CITES Appendix I can also provide a means for strict monitoring of captive-breeding for listed species, so that wild-caught specimens are not traded with false "captive-bred" labels, something likely to happen for these focal species, especially when the reproduction rate is low and there is persistent demand from international markets. On the other hand, listings in Appendix II or III can also work to strengthen monitoring, supported by other Parties making trade information

available, if legal international trade in captive-bred specimens exists, which can help in assessment of the levels of threat caused by international trade. Moreover, controls in destination markets are modified in response to CITES listings—for example, in the case of this study’s focal species, China would have an obligation to stop import and domestic trade if they were listed in CITES Appendix I, or in Appendix II with a zero quota.

RECOMMENDATIONS

Based on the findings of this study, TRAFFIC makes the following recommendations:

To the Japanese CITES Scientific Authority:

- The merits of submission of CITES listing proposals for Ryukyu Black-breasted Leaf Turtle, Ryukyu Yellow-margined Box Turtle, Kishinoue’s Giant Skink and Kiroiwa’s Ground Gecko should be considered and, in connection with this:
 - further research should be conducted concerning population status and levels of trade, to inform evaluation of the likely effectiveness of CITES listing, and selection of appropriate Appendix for each species; and
 - submission of listing proposals at the 16th meeting of the Conference of the Parties to CITES, should be urgently considered with a view to preventing further detrimental exploitation through international trade.
- Further long-term monitoring to understand better the relevant trade dynamics should be conducted and supported, including via market surveys in peak seasons of trade. Further investigation would be useful in markets such as Taiwan that are linked to Japan by frequent direct means of transport, as well as in other locations with an active reptile trade, to understand routes used and combat any illegal trade.
- Information to the destination Parties, specifically China, should be provided regarding Japan’s domestic regulations to protect species, so that China and other market destinations can be aware of trade in imported wild specimens from Japan, that are fully protected by law in that country. In addition, the CITES Secretariat should be informed of a zero quota for the CITES Appendix-II listed Ryukyu Yellow-margined Box Turtle from Japan, so that all Parties to CITES recognize Japan’s national regulation.
- Awareness of the biological status of Japanese endemic species, and regulations governing those species should be raised, including through engagement of relevant stakeholders and the general public, in areas around the species’ habitat, trade routes and destinations.

To Japanese lawmakers:

- In order to preserve Japan’s endemic reptile species, Japan should improve species conservation regulations to strengthen protection and conservation of the taxa themselves and wider biodiversity. Establishment of measures for conservation are recommended, including

within the framework of the *Law for the Conservation of Endangered Species of Wild Fauna and Flora*. This would further strengthen existing protection measures for culturally important wild species.

- To prevent further damage to Japan's endemic threatened species populations, special measures for further restriction of international trade in Yellow-margined Box Turtle *Cuora flavomarginata*, such as imposing an import ban for foreign specimens of Common Yellow-margined Box Turtle *C. f. flavomarginata*, should be considered and made effective.

To law enforcement agencies and their administrative authorities:

- The effectiveness of Japan's domestic law enforcement should be strengthened. Even though existing legislation is strong, effective implementation and enforcement against illegal activities is crucial in order for the law to be effective. The fact that trade of endemic species supposedly protected in Japan occurs in foreign markets indicates illegal collection and illegal export. Strengthening of law enforcement at Japan's borders as well as in wild habitat is urgent. Regular monitoring of pet shops and markets or trade routes should be pursued to discern active and potential trade locations and sources of illegal animals for domestic and international trade.
- Organize capacity-building and training for law enforcement officers to increase awareness of regulations and to improve identification of species/subspecies.

To the authorities of destination markets—mainland China and Hong Kong

- Greater understanding is needed regarding the legislation of source countries for imported species in trade. Once the specimens in question have been taken abroad they are beyond the reach of the source country's domestic legislation, therefore it is essential to obtain cooperation from authorities regulating the destination markets. Pet shops and physical markets, as well as online trade, should be monitored to ensure they do not become hotbeds of illegal trade. In addition, any captive-bred claims should be closely checked and verified so that false documentation does not facilitate illegal trade in wild-captured specimens.

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ANNEX

*Resolution Conf. 11.9 (Rev. CoP13)** Conservation of and trade in tortoises and freshwater turtles

AWARE that the global international trade in tortoises and freshwater turtles involves millions of specimens each year;

RECOGNIZING that nearly all Asian tortoise and freshwater turtle species are found in trade, and that a number of species are already included in Appendix I or II;

OBSERVING that the collection of tortoises and freshwater turtles is carried out through an extensive informal network of trappers, hunters and middlemen, and that collection efforts and trade volumes are considerable, especially in Asia;

CONSIDERING that, in addition, wild populations of tortoises and freshwater turtles are generally vulnerable to overexploitation, because of biological characteristics such as late maturity, limited annual reproductive output, and high juvenile mortality, as well as habitat degradation and loss;

NOTING that there are two significant types of trade in tortoises and freshwater turtles: a high-volume trade in tortoises and freshwater turtles and parts thereof for consumption both as food and in traditional medicine; and a species-focused trade for pets;

AWARE that certain species of tortoises and freshwater turtles are bred in high numbers in and outside range States, inter alia to supply the demand for food and medicines, and that the conservation risks and benefits of large-scale commercial breeding of tortoises and freshwater turtles are not well known;

NOTING that the shipment of live tortoises and freshwater turtles is often not conducted in accordance with the provisions of Articles III, IV and V of the Convention, and in particular that transport of live tortoises and freshwater turtles by air is often not conducted in accordance with IATA regulations;

ACKNOWLEDGING that unregulated or unsustainable trade in tortoises and freshwater turtles poses a significant threat to wild populations, and that international cooperation is needed to address these threats urgently;

RECALLING that a technical workshop on Conservation of and trade in tortoises and freshwater turtles, held in Kunming, China, 25-28 March 2002, provided recommendations concerning conservation management, CITES implementation, enforcement and trade controls, and capacity-building needs, as well as suggestions for amending Resolution Conf. 11.9, adopted by the Conference of the Parties at its 11th meeting (Gigiri, 2000), which were reported by the Secretariat to the Animals Committee;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

URGES:

a) all Parties, especially range States and exporting and importing States of Asian tortoises and freshwater turtles, to enhance and increase enforcement efforts with regard to existing legislation as a matter of urgency;

b) all Parties, especially range States and exporting and importing States of Asian tortoise and freshwater turtles, to enhance cooperation amongst wildlife-law enforcement agencies at national and international levels concerning control of trade in tortoises and freshwater turtles, and between enforcement agencies and national CITES authorities;

c) all Parties, especially range States of Asian tortoises and freshwater turtles, to assess current efforts to manage native tortoise and freshwater turtle populations, and to improve those efforts as necessary, e.g. by establishing quotas that take into consideration the particular biology of tortoises and freshwater turtles;

d) all Parties to develop and implement research programmes to identify the species involved in trade, to monitor and assess the impact of trade on wild populations, and to evaluate the conservation risks and benefits of large-scale commercial breeding of tortoises and freshwater turtles;

e) all Parties whose national legislation is not sufficient to control effectively the unsustainable harvest of and trade in tortoises and freshwater turtles to enact legislation to protect and manage these species appropriately;

f) all Parties, especially in the Asian region, to increase public awareness of the threats posed to tortoises and freshwater turtles from unsustainable harvest and unregulated trade, to encourage non-governmental organizations to develop, produce and distribute posters and other educational and informative materials on this subject, and to facilitate, where necessary, the compilation, dissemination and translation into local languages of information on tortoises and freshwater turtles for their use by enforcement officers, drawing on existing identification and enforcement guides, and focusing on identification, local names, distribution and illustrations;

g) all Parties to explore ways to enhance the participation of collectors, traders, exporters, importers and consumers in the conservation of and sustainable trade in tortoises and freshwater turtle species;

h) all Parties, especially in the Asian region, to collaborate on all aspects of conservation and management of, trade in, and implementation of the Convention for, tortoises and freshwater turtles, taking into consideration the recommendations formulated at the technical workshop on Conservation of and trade in tortoises and freshwater turtles held in Kunming, China, 25-28 March 2002;

i) all Parties, particularly those in the Asian region, to develop plans of action, in compliance with Resolution Conf. 10.7 (Rev. CoP15)¹ that can be executed without delay in the event that live specimens of tortoises and freshwater turtles are confiscated;

j) range States of tortoises and freshwater turtles to develop management strategies concerning CITES-listed tortoises and freshwater turtles, including regional action plans for the conservation of Asian tortoises and freshwater turtles, in collaboration with the Secretariat, industry representatives, interested governmental and non-governmental organizations and other stakeholders as appropriate;

k) all Parties to ensure that all shipments of live tortoises and freshwater turtles are transported in compliance with relevant IATA guidelines;

l) all Parties to facilitate the development of partnerships between interested non-governmental organizations or other bodies to develop and operate rescue centres for seized or confiscated tortoises and freshwater turtles, in cooperation with range States and relevant government agencies; and

m) range States of tortoises and freshwater turtles that authorize trade in these species to include in their periodic reporting under Article VIII, paragraph 7 (b), information on progress in implementing this Resolution; and

DIRECTS the Secretariat to provide assistance with securing financial resources from Parties, United Nations specialized agencies, intergovernmental and non-governmental organizations, trade associations, industry and others as appropriate, for range States in need of and requesting financial support to develop and implement management strategies and action plans concerning CITES-listed tortoises and freshwater turtles in accordance with this Resolution.

* Amended at the 12th and 13th meetings of the Conference of the Parties, and corrected by the Secretariat following the 15th meeting.

¹ Corrected by the Secretariat following the 15th meeting of the Conference of the Parties: originally referred to Resolution Conf. 10.7.

TRAFFIC, the wildlife trade monitoring network, is the leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

For further information contact:

Head of Japan Programme

TRAFFIC

6th Fl. Nihonseimei

Akabanebashi Bldg., 3-1-14, Shiba

Minato-ku,

105-0014 Tokyo,

Japan

Telephone: (81) 3 3769 1716

Fax: (81) 3 3769 1717

Email: traffic@trafficj.org

