



**KEEPING AN EAR TO THE  
GROUND:  
MONITORING THE TRADE IN  
EARLESS MONITOR LIZARDS**

**A Rapid Assessment**

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**A TRAFFIC REPORT**

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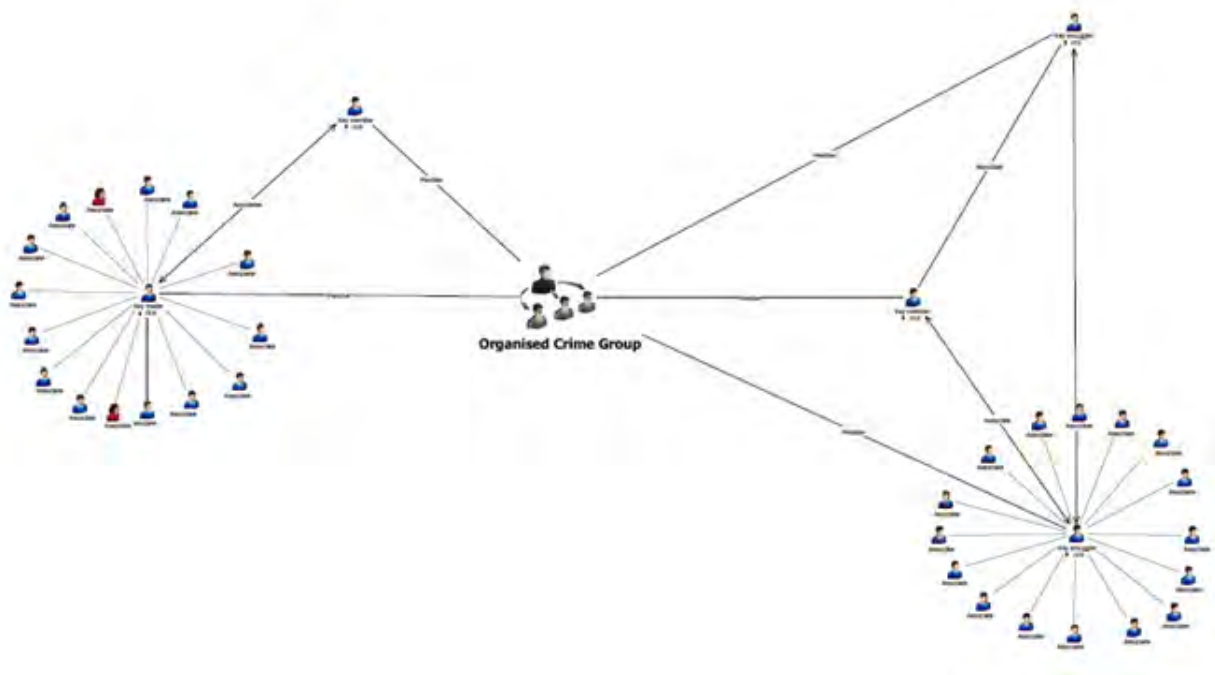
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**Front cover:** Earless Monitor Lizard  
**Photograph credit:** © Indraneil Das

# Keeping an ear to the ground: monitoring the trade in Earless Monitor Lizards

## A Rapid Assessment



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Department of Conservation  
*Te Papa Atawhai*



# EXECUTIVE SUMMARY

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The Earless Monitor Lizard *Lanthanotus borneensis* is endemic to the South-east Asian island of Borneo and has been described as the Holy Grail of herpetology. Due to its subterranean habits and restricted distribution in north-western Borneo, the species remains virtually unknown to the outside world. It has, however, great appeal for unscrupulous reptile collectors.

Between 1877, when the Earless Monitor Lizard was first described, and the end of the last century only some 100 or so specimens had been collected. These were mostly, if not exclusively, derived from four locations in the Malaysian State of Sarawak, and possibly from the Indonesian province of West Kalimantan. It is not known whether the species also occurs in neighbouring Brunei Darussalam.

The Earless Monitor Lizard has been a totally protected species in Malaysia since 1971, in Brunei Darussalam since 1978, and in Indonesia since 1980. Penalties for trading the species that can be imposed on violators range from a fine of USD 1,600 and one year's imprisonment (Brunei Darussalam) to USD 7,850 and three years' imprisonment (Malaysia), to USD 8,600 and five years' imprisonment (Indonesia). Brunei Darussalam, Indonesia and Malaysia are all signatories to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that aims to regulate all international trade in threatened wildlife; Earless Monitors, however, are not included in the Appendices of CITES.

In 2006 and 2008 verified evidence of Earless Monitor Lizards' presence in West Kalimantan came to light, and by 2012 enough detail about where the species was found had been made public to enable illicit collecting expeditions. With five locality records in the public domain by 2012, all from within 100 km of one another, interest in the species from international collectors increased to a level not observed in the last 50 years and shifted the focus from Sarawak, Malaysia to a small area in West Kalimantan, Indonesia.

TRAFFIC has documented an emerging trend in the international trade in this species, with evidence of Earless Monitor Lizards exhibited online in Japan, the Ukraine, France, Germany and the Czech Republic. Online blogs corroborate other reported information which strongly suggests that the illegal collection for trade is focussed on West Kalimantan, but additional trade out of Sarawak, East Kalimantan or even Brunei Darussalam cannot be ruled out.

Thus despite the species being legally protected for decades in all three of its known or potential range countries, there is an emerging trade in Earless Monitor Lizards. **TRAFFIC recommends the following:**

**Monitoring** and curbing the exploitation of Earless Monitor Lizards must commence with immediate effect to ensure that illegal trade does not threaten the survival of this unique and rare species.

There is a strong justification to include Earless Monitor Lizards in **Appendix I of CITES** thus making it clear to all Parties that international trade in the species is not permitted, and aiding in the effectiveness of national range State legislation.

As an **immediate interim action the Governments of Brunei Darussalam, Indonesia and Malaysia** are encouraged to list Earless Monitor Lizards in **Appendix III of CITES**, a move that does not require a vote at the Conference of Parties. This would allow the international trade of Earless Monitor Lizards to be better monitored and regulated through co-operation with all CITES Parties.

Earless Monitor Lizards existing outside range countries have all been obtained illegally. Parent stock has been illegally obtained, stolen from range countries, and therefore, by extension, the offspring of these animals are illegally sourced. Governments in importing countries are urged to respect the laws of Brunei Darussalam, Indonesia and Malaysia's legislation by **disallowing the import, ownership and trade of Earless Monitor Lizards.**

Efforts should also be made to repatriate any seized specimens removed from trade **following investigative work** to known locations in Sarawak or West Kalimantan, and the option of releasing them back into the wild (either in areas with a known-presence of wild Earless Monitor Lizards or alternatively in seemingly suitable areas without the species present) should be considered. Maintaining a healthy population in those few locations on Borneo is paramount to lessen any impact illegal takings may have already had.

# INTRODUCTION

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The Earless Monitor Lizard is endemic to the South-east Asian island of Borneo, and is regarded as the Holy Grail of herpetology. Although first described in 1877 *Lanthanotus borneensis* (Latin for 'hidden ear from Borneo'), remains virtually unknown to the outside world because of its subterranean habits and apparently restricted distribution in the lowlands of the north-western part of the island. The species, however, holds great appeal for unscrupulous collectors.

The Earless Monitor Lizard has a unique morphology with no external ear opening, a cylindrical lengthened body (due to an increased number of vertebrae) covered in scaly tubercles with small limbs and a prehensile tail. It has a forked tongue, and small eyes with the lower eyelid covered by translucent 'windows'. These are all thought to be adaptations to a subterranean lifestyle. As such it is rightly placed in its own monospecific family Lanthanotidae. Earless Monitor Lizards are the sister group to all the other monitor lizards (genus *Varanus*) (Ast, 2001; Douglas *et al.*, 2010). Its morphology links it to a 70 million year old fossil from Mongolia (Borsuk-Biaynika, 1984) hence it is sometimes referred to as a living fossil.



Photo credit: Indraneil Das

## Earless Monitor Lizard *Lanthanotus borneensis*

In the 1960s, Tom Harrison, curator of the Sarawak Museum, obtained some Earless Monitor Lizards and published two papers about their appearance and general behaviour in the journal *Nature* (Harrison, 1963a, Harrison and Haille, 1961) and three further papers in the *Sarawak Museum Journal* (Harrison, 1961, 1963b, 1966). For a long time these were the only data held on live specimens of the species.

Between 1877 when the Earless Monitor Lizard was described and 1961 only 12 specimens had been recorded, all from lowland Sarawak (Proud, 1978). Harrison managed to obtain 30 live specimens by 1963 through mounting a public appeal and offering financial rewards. Following that, only a few appear to have been collected. Sprackland (1999) noted that most major natural history collections in the world have between one and three specimens, making a combined total of around 100 or so specimens. These were collected in the first half of the last century and originate from four restricted areas in the lowlands of Sarawak. Only a few post-1960 records of the species from Sarawak exist.

While Sprackland (1999) noted recent unconfirmed reports of the species from West Kalimantan, no specific locality data came forward in the years following. In 2006, Auliya published a detailed location of where Earless Monitor Lizards may occur in the Upper Kapuas region of West Kalimantan. The record originated from a primary forest area and dates back to 1979 when it was made by a reptile collector or dealer. While he himself had not seen the specimen, Auliya (2006: 211) commented: “I treat these comments as serious and trustworthy, as I learned how well-experienced and knowledgeable some of my constant local companions were during the entire field period.” In 2012, a record of a fourteenth specimen from West Kalimantan was made public, and a year later the first record from East Kalimantan became known (Yaap *et al.*, 2012 see Discussion).

## Legal Status

Earless Monitor Lizards are only known to be found in Sarawak, Malaysia and West and East Kalimantan, Indonesia. The northernmost records, at Nias Caves and Sungai Pesuh, are at least 100 km from the Brunei Darussalam border and 200 km from the Sabah border. In Brunei Darussalam, Indonesia and, Malaysia the species is fully protected species where trade is not permitted.

As early as 1971, in pursuant to the power conferred upon him by Section 37(2) of the Wildlife Protection Ordinance, Sarawak’s Governor in Council added the Earless Monitor Lizard to the list of First Schedule of Protected Animals (Chin 1971), thus fully protecting them from exploitation. At present, Earless Monitor Lizards are included on the list of ‘Totally Protected Species’ in Sarawak’s First Schedule [section 2(1)], part 1, of the Wildlife Protection Ordinance of 1998. No trade in Earless Monitor Lizards is allowed and fines can be imposed up to MYR 25,000 (USD 7,850 at July 2014 rates) and three years’ imprisonment.

In 1978, the Earless Monitor Lizard was included as one of 15 species when Brunei Darussalam’s Wildlife Protection Act was included in the country’s legislation. It specified that any person found guilty of exporting endangered animals can be fined BND 2,000 (USD 1,600) and sentenced up to one year in prison. The Act was amended in 1984, adding 19 more species to the list, and despite no firm evidence of Earless Monitor Lizards occurring in the country, the species remains listed as totally protected.

Earless Monitor Lizards have been protected under Indonesian law since October 1980. They were included as *Varanus borneensis* on a Decree of the Ministry of Agriculture (Surat Keputusan Menteri Pertanian No 716/Kpts/Um/10/1980) and in 1991 on a Decree of the Ministry of Forestry (Surat Keputusan Menteri Kehutanan No 301/Kpts-II/1991). These were consolidated in 1999 into Governmental Regulation No 7 on the Preservation of Plant and Animal Species (PP No 7 Tahun 1999 tentang Pengawetan Jenis Tumbuhan dan Satwa). As such, in Indonesia, trade in Earless Monitor Lizards is not permitted. Penalties that can be imposed when these laws are contravened can total up to IDR 100 000 000 (USD 8,600) in fines and imprisonment of up to five years.



Some Indonesian companies have permission to keep protected species for captive-breeding and are allowed to export a set quota each year (Partono, 2014). Earless Monitor Lizards are not, and never have been included on this list; therefore no Earless Monitor Lizards may be removed from the wild for commercial purposes, including removal for use in commercial breeding operations.

In summary, Earless Monitor Lizards are legally protected throughout their range, dating back to 1971 in Malaysia, 1978 in Brunei Darussalam and 1980 in Indonesia.

All three (known or potential) range countries are Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Convention entered into force on 18 January 1978 in Malaysia, 28 March 1979 in Indonesia and 2 August 1990 in Brunei Darussalam. *Lanthanotus borneensis* is not included on any of the three appendices to the Convention, making it the only monitor lizard not covered by CITES.

The Earless Monitor Lizard has not been assessed for the IUCN Red List. However, even with the limited amount of information available, it is clear that, on the basis of its small area of occupancy, its fragmented distribution with fewer than 10 known locations, and, because of ongoing deforestation, a decline in the area, extent and quality of its habitat, the Earless Monitor Lizard presumably meets the criteria to be listed as Vulnerable and possibly Endangered (criteria B2ab(iii)). Furthermore, according to information reported to TRAFFIC, in spring 2014 more than 40 individuals were collected for the European market and this level of offtake may have a significant impact on the wild population.

# RESULTS AND DISCUSSION

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## The 2008 Discovery and Commencement of Illegal Trade out of Kalimantan

In May 2008, a survey team working in the Jelimpo sub district of the Landak regency in the province of West Kalimantan, Indonesia, discovered a single Earless Monitor Lizard by chance (Yaap *et al.*, 2012). The animal was photographed but the importance of the discovery was not recognized at the time. Interviews conducted by the same survey team later that year revealed that the species was known from three other nearby locations but was not observed directly. The details of this record were made public in September 2012, providing not only photographs of the animal in its natural habitat but also details of where the animal was found. The authors noted that they were not providing the GPS coordinates of the locality, but nevertheless they provided more than enough detail as a starting point for a collection expedition.

With the five locality records publicized in 2012 (i.e. the four reported by Yaap *et al.*, 2012 and the one by Auliya, 2006), all from within 100 km from one another, the interest in the species from international collectors increased to a level not observed in the last 50 years and clearly shifted collectors' focus from Sarawak to a small area in West Kalimantan.

In March 2013, another record surfaced, dating back to 2001 when two travellers encountered a single Earless Monitor Lizard caught by local villagers. So far this information seems to have had limited impact on stimulating trade out of East Kalimantan.

On June 3 2014, a Czech national was the first detected trader advertising adult Earless Monitor Lizard pairs on the online platform [www.terrarium.com](http://www.terrarium.com), only a few weeks after information had been received by TRAFFIC of a large-scale offtake that had taken place around April/May.

Documented trade in Earless Monitor Lizards has historically been fairly limited. Sprackland (1999) noted that there were unconfirmed reports of specimens collected by an Indonesian animal dealer that were subsequently sold to an American zoo, but specific details were lacking. More generally, not specifically referring to Indonesian specimens, Sprackland (1999: 73) wrote that “recently, new specimens have begun to show up in collections, but with exorbitant price tags that make private ownership very difficult.”

In recent years there has been prevalence of trade, with evidence of the species emerging for sale in the Czech Republic and Germany and being showcased in Japan, France and the Ukraine. Online blogs corroborate other information provided to TRAFFIC which strongly suggests that the collection is focussed on West Kalimantan, in the area from where the species was discovered in 2008 and from where it was reportedly present in 1979.

**Figure 1 and Figure 2** presents two chronological timeline of events relating to legislation, reported sightings and subsequent trade in Earless Monitor Lizards.

Figure 1: A Timeline of Events Relating to Earless Monitor Lizards (1970-2013)

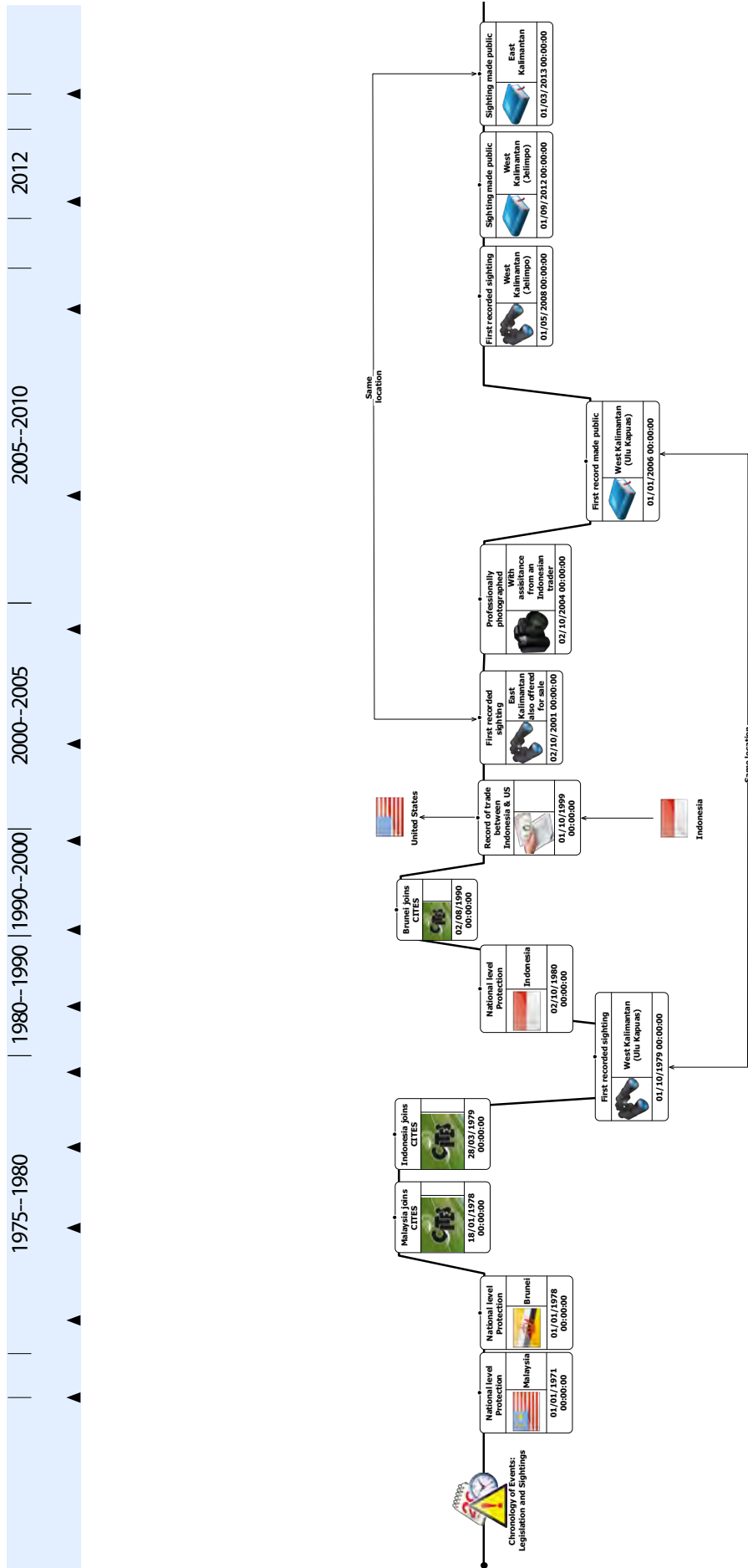
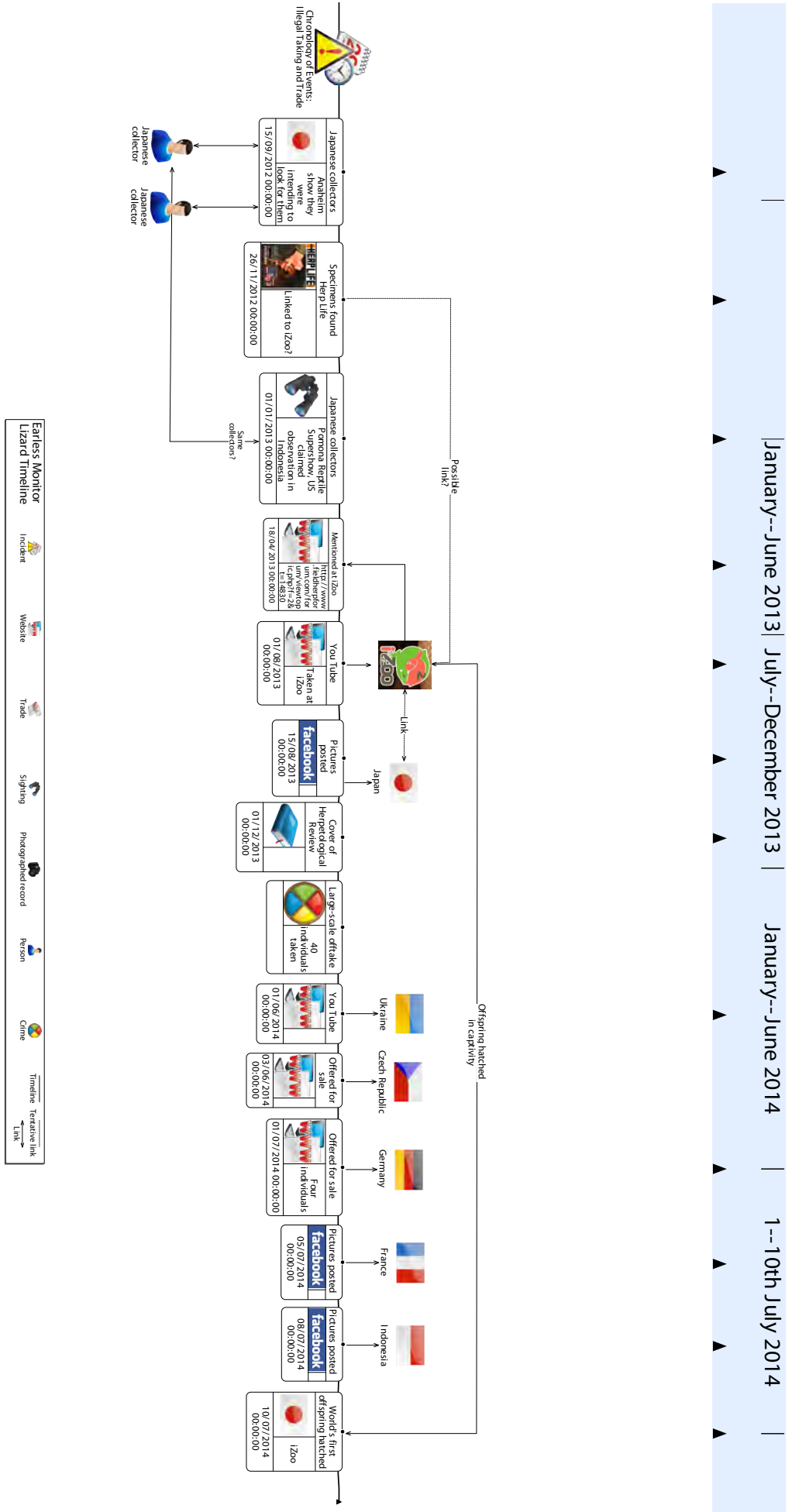


Figure 2: A Timeline of Events Relating to Earless Monitor Lizards (2012-2014)



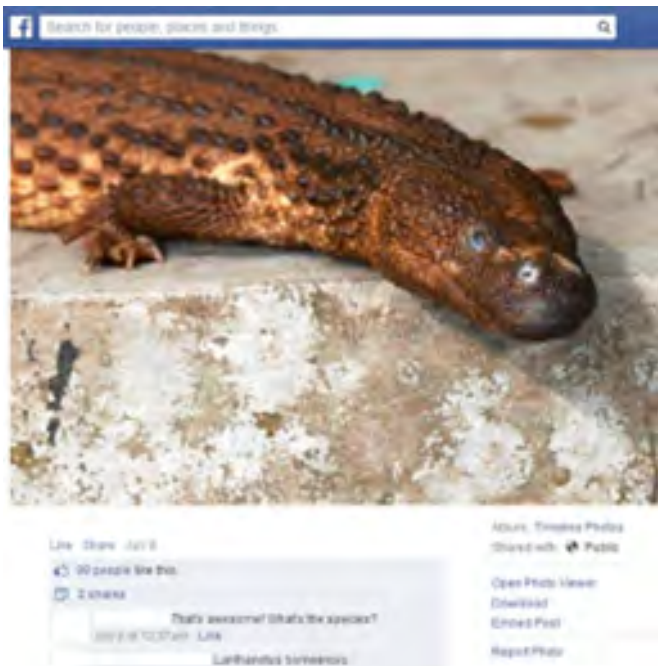
## Emerging Trade in Earless Monitor Lizards

Although private ownership of Earless Monitor Lizards has rarely been reported during the last 30 years, there has been a rapid emergence of trade in this species in the past two years. This is of great concern particularly given the absence of international trade regulations that would criminalise any such activity. The Internet, especially social network sites such as Facebook and specialist forums, is facilitating this, either directly by enabling trade exchanges or indirectly where discussions around the species have been taking place. Moreover, much illegal trade online, wildlife or otherwise occurs within trust-based, closed networks limiting access and knowledge of the true level of trade (Stoner, 2014). The lack of monitoring at a national or international level and the global popularity of the Internet today is creating the conditions to allow illegal trade to flourish online undetected. However, the challenge remains, in successfully tackling this clandestine trading method in a meaningful way.

## Organized Trade

Intelligence information shows that Earless Monitor Lizards are being actively targeted by a small but prolific group of collectors/traders who use trusted couriers to collect and smuggle individual reptiles out of Borneo. At least two of these couriers from the group are known to have previous convictions after attempting to smuggle reptiles from their range states. On those two occasions the targeted species displayed similar characteristics to that of Earless Monitor Lizards in that they were endemic, restricted in their distribution and not easily accessible. It is likely that the financial rewards gained from such expeditions far outweigh the risk of being apprehended and any subsequent penalty that may be applied. Furthermore, although prison sentences have been served by some of these individuals this has by no means achieved a deterrent effect judging by their recidivist behaviour. Visits made to Kalimantan in 2014 by members of this group were specifically for the purpose of taking Earless Monitor Lizards from the wild. Following these activities, a number of the lizards were subsequently being offered for sale or were being shown online across Europe in the Ukraine, the Czech Republic, France and Germany, as well as Indonesia (Figure 2). Additionally, reliable information received by TRAFFIC stated that Earless Monitor Lizards were being offered for sale at Europe's largest reptile fair Terraristika which commenced in Germany on July 5 2014.

Figure 2: Facebook Shot of Earless Monitor Lizard in Indonesia, July 2014



## Online Forum Discussions

Online research has demonstrated that the interest in this species is high and has a wide geographical reach, with a virtual community in existence, connected by social networking which include a number of known reptile traders. Constant references are made to the rarity and uniqueness of this species which may be perpetuating demand and increasing its desirability. Similar to the anthropogenic Allee effect, the tendency of individuals to place exaggerated values on rarity, rendering them ever more extraordinary and charismatic, in turn fuels their disproportionate exploitation (Courchamp et al., 2006). This is consistent with descriptions of Earless Monitor Lizards appearing online implying they are the equivalent of the "Holy Grail" in the reptile collecting world. This interest is being expedited by the Internet which is likely to be a great contributing enabler for connecting individuals with an active and keen interest in rare and lesser known species in a way that was not possible in the past.

## Interest in Japan

While the species only exists on Borneo, there has been documented interest in Earless Monitor Lizards around the world, particularly in Japan recently.



In 2012, a picture of a living Earless Monitor held in someone's hand featured on the cover of issue 23 of the Japanese reptile magazine HerpLife (pictured left). The article describes how an expedition team working for the magazine found a specimen in Borneo on November 26 2012 and took photographs, one of which was the cover.

In 2012, two Japanese herpetologists interviewed by Herp Nation online claimed they had spent 10 years looking for Earless Monitor Lizards. During the interview they confirmed they recently caught one of these lizards in West Kalimantan and released it after taking some photos and a video although no further details have been published.

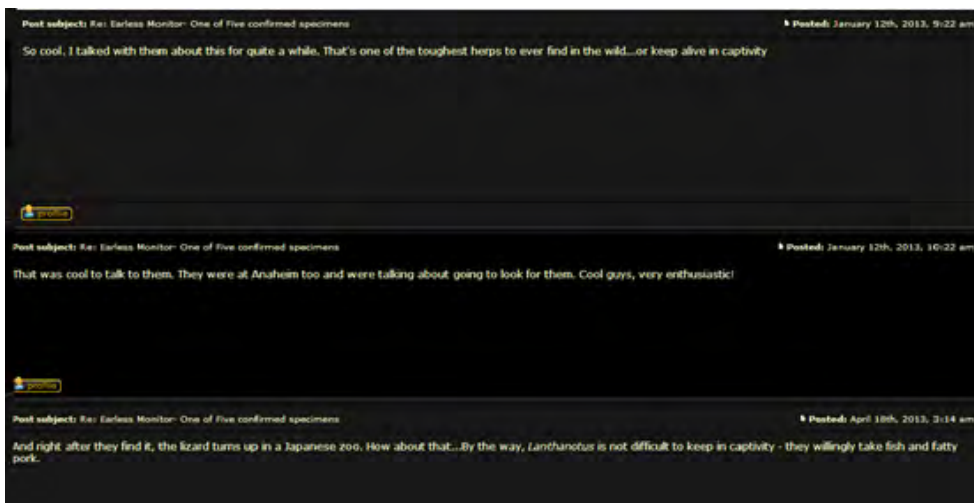
On August 17 2013, a video taken at the iZoo was posted on YouTube which showed an Earless Monitor Lizard eating an earthworm. As of September 3 2014 the video has been viewed over 1680 times (Figure 3). Additionally, on August 6 2013, a photograph of a gecko breeder holding a single Earless Monitor Lizard was uploaded on his Facebook page which stated the picture was taken at the iZoo. The comments received following this posting again illustrate the level of interest and awe felt toward this species.

Figure 3: Number of Views on You Tube (Source: You Tube)



The iZoo is based in Shizuoka prefecture, Japan and opened in December 2012. Its major species are reptiles and includes amphibians, snakes, lizards, insects, tortoises and turtles; as of 2013 the zoo housed a Galapagos Tortoise *Geochelone nigra*. According to an online forum iZoo have had Earless Monitor Lizards since at least 2013 (Figure 4), the thread also discusses the difficulty of locating these individuals in the wild. Staff at the iZoo told TRAFFIC, during a visit made in 2013 when one Earless Monitor Lizard was being exhibited that the specimen had been collected by a Japanese national but not by a member of the zoo staff.

Figure 4: Online Forum of Earless Monitor Lizard at, Japanese Zoo in 2013



On July 10 2014 the iZoo claimed to have successfully achieved the world's first Earless Monitor Lizard offspring hatched in captivity. This announcement was made public via the zoo's Facebook page where it stated 10 eggs had been produced in total, confirming the species is oviparous (**Figure 5**). The site was also offering the online live-streaming of the hatching of the eggs. Since neither Indonesia nor Malaysia has ever reported the legal export of Earless Monitor Lizards, questions are inevitably raised as to the origin of the breeding pair.

**Figure 5: First reported offspring hatched in captivity at the iZoo, Japan**



On July 21 2007 the zoo's director Tsuyoshi Shirawa was convicted on charges relating to fraudulent registration and fraudulent trading of reptiles during 2004 to 2005. Shirawa was sentenced to a jail term of two years and six months and fined JPY 1 800 000 (USD15 330) after he claimed that False Gharial *Tomistoma schlegelii* (CITES I) and Radiated Tortoise *Astrochelys radiata* (CITES I) specimens that he had been involved in trading in, had been captive-bred in Japan. An appeal to the Supreme Court was later dismissed (anon. Seizures and Prosecutions Section, TRAFFIC Bulletin, Vol. 21. No. 3 p. 118).

### Captive-Breeding Challenge

Although captive-breeding of Earless Monitor Lizards appears to be feasible, due to the documented levels of laundering occurring through captive-breeding facilitates in Indonesia (Nijman and Shepherd, 2009; Lyons and Natusch, 2011) and the lack of effective transparent monitoring and regulation of trade in this species, TRAFFIC does not recommend it be considered as a viable solution at this time.

# CONCLUSIONS AND RECOMMENDATIONS

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The Earless Monitor Lizard *Lanthanotus borneensis* is endemic to the South-east Asian island of Borneo and has been described as the Holy Grail of herpetology. Due to its subterranean habits and restricted distribution in north-western Borneo, the species remains virtually unknown to the outside world. It has, however, great appeal for unscrupulous reptile collectors.

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Thus despite the species being legally protected for decades in all three of its known or potential range countries, there is an emerging trade in Earless Monitor Lizards. **TRAFFIC recommends the following:**

**Monitoring** and curbing the exploitation of Earless Monitor Lizards must commence with immediate effect to ensure that illegal trade does not threaten the survival of this unique and rare species.

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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.

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