

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA



Seventeenth meeting of the Conference of the Parties  
Johannesburg (South Africa), 24 September – 5 October 2016

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

The Appendix I listing is proposed for Lanthanotidae, based on the qualifying criteria in accordance with Conf. 9.24 (Rev. CoP16.) , Annex 1, B. i), where the wild population has a restricted area of distribution and is characterized fragmentation or occurrence at very few locations.

B. Proponent

Malaysia

C. Supporting statement

1. Taxonomy

- 1.1 Class: Reptilia
- 1.2 Order: Squamata
- 1.3 Family: Lanthanotidae
- 1.4 Genus, species or subspecies, including author and year: Lanthanotus
- 1.5 Scientific synonyms: Lanthanotus borneensis (Steindachner, 1878)
- 1.6 Common names:
- |                    |                          |
|--------------------|--------------------------|
| English            | : Earless Monitor Lizard |
| Brunei             | : Kukang:                |
| Indonesia          | : Biawak Kalimantan      |
| Malaysia (Sarawak) | : Cicak purba            |
- 1.7 Code numbers: None

2. Overview

2.1 Technical Justification

There is a strong justification to include Lanthanotidae in Appendix I of CITES thus making it clear to all Parties that international trade in the species is not permitted. Aiding in the effectiveness of national range State legislation and to lessen any impact illegal takings may have already had on the species.

The proposal is also based on the qualifying criteria in accordance with Conf. 9.24 (Rev. CoP16.), Annex 2 a, B, where: It is known, or can be inferred or projected, that regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences. This is based on the facts that:

- a) There has been a documented increase in the prevalence of the species in trade, with evidence of the species emerging for sale in the Czech Republic and Germany as well as being showcased in

Japan, France and the Ukraine. Online blogs corroborate other anecdotal information which strongly suggests that the wild collection of the species is taking place and 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. Little is known about the current rate of off-take from the wild. However, the species is nationally protected in all three of its possible range states. Therefore, any species occurring outside of Borneo (for trade or otherwise) have been illegally obtained. There is a strong justification to include the species on Appendix I 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.

- b) While population size of this species is not currently known, the impact of trade is inferred to be great. Even with the limited amount of information available, it is clear that, on the basis of its small area of occupancy, its fragmented distribution and, because of ongoing deforestation, a decline in the area, extent and quality of its habitat, the species is in precarious a situation. This threat is further compounded by the discovery of the species in trade.

## 2.2 General



Image 1: *Lanthanotus borneensis*

Earless Monitor Lizard (*Lanthanotus borneensis*), the sole member of Lanthanotidae, is endemic to the South-east Asian island of Borneo and has a restricted distribution primarily occurring in the lowlands of the north-western part of the island; Sarawak, Malaysia and West and East Kalimantan, Indonesia.

Between 1877 when the Earless Monitor Lizard was first 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, Malaysia exist. Recent records were mostly from West Kalimantan as published by Auliya in 2006, Yaap et al., 2012 and in March 2013.

The species has not yet been assessed on the IUCN Red List of Endangered Species.

*Lanthanotus borneensis* is totally protected in its three possible range states of Brunei Darussalam, Indonesia and, Malaysia where trade is not permitted. However, the species has so far only been recorded in Malaysia and Indonesia.

Although commercial trade of *Lanthanotus borneensis* has rarely been reported during the last 30 years, there has been a rapid emergence of trade in this species since 2013. 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 (Nijman & Stoner, 2014).

The Internet, especially social network is facilitating trade, either directly by enabling open sale, trade exchanges or indirectly where discussions around the species have been taking place.

In March 2015, the species was offered for sale by two different traders at the Hamm Fair in Germany (anon.)

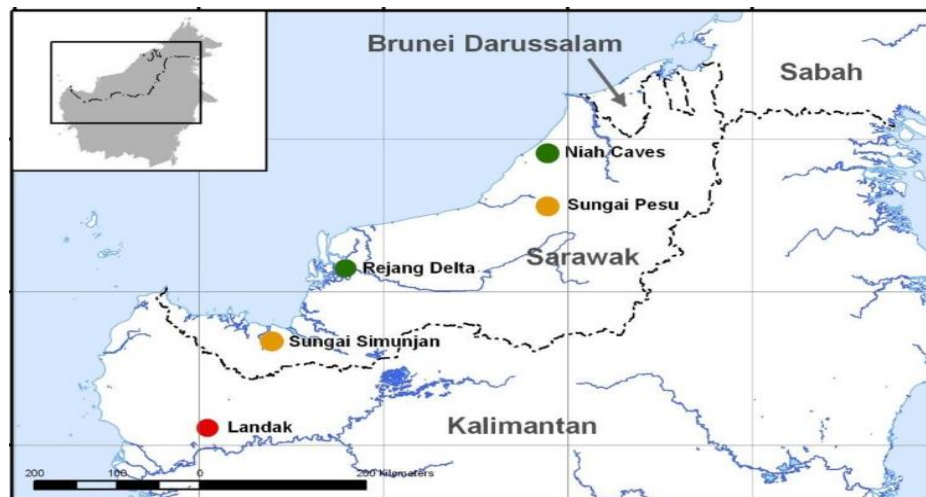
The species is reported to be reaching high prices on the black market; averaging between 7,500 – 9000 USD per individual (anon.)

Earless Monitor Lizards are not, and never have been included on the list of species permitted for captive breeding; therefore no Earless Monitor Lizards may be removed from the wild for commercial purposes, including removal for use in commercial breeding operations in Indonesia (Nijman & Stoner, 2014). However, iZoo, a Japanese zoo publicly announced in July 2014 they had successfully achieved the world's first Earless Monitor Lizard offspring hatched in captivity. Since neither Indonesia nor Malaysia has ever reported legal export of the species, the origins of these breeding is questionable.

### 3. Species characteristics

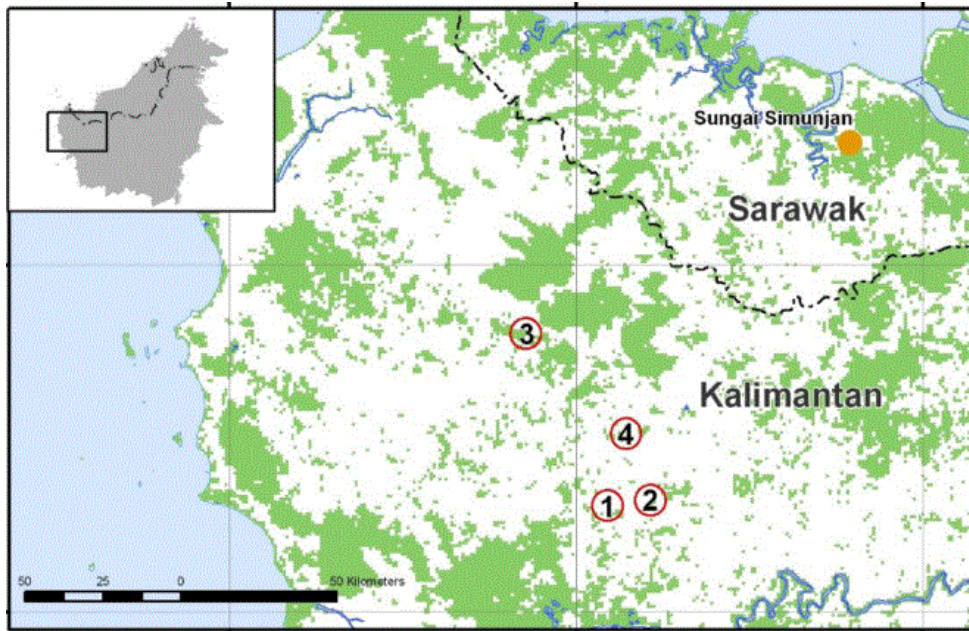
#### 3.1 Distribution

Earless Monitor Lizards are only known to be found in Sarawak, Malaysia and West and East Kalimantan, Indonesia. The northernmost records, at Niah Caves and Sungai Pesu, are at least 100 km from the Brunei Darussalam border and 200 km from the Sabah border (Image 2). In Brunei Darussalam, Indonesia and, Malaysia the species is fully protected species where trade is not permitted.



**Image 2:** Locations where *Lanthanotus borneensis* has been recorded. Green spots denote findings from 1912 discoveries, yellow spots 1912- 1966 and red spot 1966 – present. SOURCE: Yaap et al, 2012

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). 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 (Image 3). 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).



**Image 3:** Localities surveyed in Landak District of West Kalimantan overlaid with 2007 forest cover data.  
SOURCE: Yaap et al, 2012

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 occurred from within 100 km from one another. Then in March 2013, another record, from East Kalimantan was published. The record dates back to 2001 when two travellers encountered a single Earless Monitor Lizard caught by local villagers.

### 3.2 Habitat

Described as semi-aquatic, *Lanthanotus borneensis* is a burrower that prefers moist soil near river banks. Its subterranean habits means it has been less commonly studied. They are predominantly nocturnal, emerging only at night to hunt their chosen prey of bugs and fossorial invertebrates like earthworms.

Until now *Lanthanotus borneensis* has been known only from the coastal lowlands of northern Sarawak, but Yaap et al., (2012) report its recent discovery on oil palm development area in the Landak District of West Kalimantan, expanding its known range southward into Kalimantan. The site included natural forest, secondary forest and isolated bamboo clusters located in a recently developed oil palm estate. The estate and its surroundings are a complex mosaic of active or recently abandoned swidden agricultural fields, rubber, and agroforestry.

### 3.3 Biological characteristics

In 2014 a Japanese zoo claimed to have successfully hatched ten eggs in captivity confirming the species to be oviparous (Image 4).



**Image 4:** *Lanthanotus borneensis* first reported offspring hatched in captivity, Japan, 2014

### 3.4 Morphological characteristics

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. *Lanthanotus borneensis* ' body is made up of characteristic six longitudinal dorsal rows of enlarged scales that run from neck to tail-base (Yaap et al., 2012).

### 3.5 Role of the species in its ecosystem

No data currently exists on the role of *Lanthanotus borneensis* in the ecosystem.

## 4. Status and trends

### 4.1 Habitat trends

*Lanthanotus borneensis* is a Bornean endemic reported as occurring primarily in the lowlands.

### 4.2 Population size

There are no estimates of population size for the *Lanthanotus borneensis* across any part of its range.

### 4.3 Population structure

There is currently very few information available to establish any population structure for *Lanthanotus borneensis*.

### 4.4 Population trends

There is no empirical long-term data documenting population trends in *Lanthanotus borneensis* across any part of its range.

### 4.5 Geographic trends

Geographic trends in this species are not available due to the limited sightings of the species across a fragmented range.

## 5. Threats

Previously known to be from the coastal lowlands of northern Sarawak. In Borneo's lowlands, forest fires, swidden agriculture and widespread conversion to agro-industrial and forestry plantations have led to rapid forest loss and degradation (Curran et al., 2004). This loss is widely documented and viewed as a significant long-term threat to the island's species richness. This threat raises further concern about the loss of species prior to 'discovery' or collection of status data, especially in Kalimantan where deforestation rates are high and many regions have gone unsurveyed. (Yaap et al., 2012) This species was recently discovered during a biodiversity survey in the Landak District of West Kalimantan, compounding this threat further.

## 6. Utilization and trade

### 6.1 National utilization

*Lanthanotus borneensis* are currently totally protected across all three of its potential range states where trade is not permitted.

## 6.2 Legal trade

Neither Malaysia nor Indonesia have ever reported the legal export of the species.

## 6.3 Parts and derivatives in trade

Currently, there is no information available to support the existences of parts and derivatives in trade.

## 6.4 Illegal trade

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”. U.S. Fish and Wildlife Service indicated that the United State’s Law Enforcement (LEMIS) data recorded imports of 7 shipments of 28 live *Lanthanotus borneensis* into US since 2013 (Leuteritz per com 2015).

Intelligence information reports 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. 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. Additionally, reliable information 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 (Nijman & Stoner, 2014) and again more recently on March 14 2015 (anon.) Online blogs corroborate other information 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.

## 6.5 Actual or potential trade impacts

The following is an example of an actual and potential trade exemplified in a Japanese interest. 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 (Image 5). 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 image.



**Image 5.** Japan Herplife Magazine featuring *Lanthanotus borneensis* in 2012.

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 to YouTube which showed an Earless Monitor Lizard eating an earthworm . As of September 3 2014 the video has been viewed over 1680 times. 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.

On July 10 2014 the iZoo claimed to have successfully achieved the world's first Earless Monitor Lizards offspring hatched in captivity. This announcement was made public via the zoo's Facebook page where it stated ten eggs had been produced in total, confirming the species is oviparous. The site was also offering the online live-streaming of the hatching of the eggs. Neither Indonesia nor Malaysia has ever reported the legal export of Earless Monitor Lizards (Nijman & Stoner, 2014).

## 6.6 Proposed Utilization

Currently, there is proposal or intention to utilize *Lanthanotus borneensis* in any form.

## 7. Legal instruments

### 7.1 National

*Lanthanotus borneensis* are Totally Protected across its range; Malaysia since 1971, Brunei Darussalam since 1978, and in Indonesia since 1980.

As early as 1971, in pursuant to the power conferred upon him by Section 37(2) of the Wild Life 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 Wild Life Protection Ordinance, 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 two 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.

### 7.2 International

There is no international legislation that applies to the protection of *Lanthanotus borneensis* .

## 8. Species management

### 8.1 Management measures

The laws for the protection of *Lanthanotus borneensis* are well in place as they are totally protected in every region of the Range States. There is too little information available to specify management measures for such a cryptic species. As such, the national laws are adequate to render an overall protection for *Lanthanotus borneensis*.

### 8.2 Population monitoring

This is a such elusive and cryptic species, being nocturnal and a burrowing animal. Extensive herpetofauna survey carried out statewide resulted zero encounter with *Lanthanotus borneensis*. While effort to study and monitor the population continues, incidental encounters posted in social media has been useful to support the presence and occurrence of the species.

### 8.3 Control measures

#### 8.3.1 International

Currently, *Lanthanotus borneensis* are not protected internationally as they are not listed under CITES.

Upon successful listing, they will be controlled and protected internationally as the implementation of CITES in Malaysia is instrumented under the International Trade in Endangered Species Act 2008 [Act 686] as well as the regional wildlife law. For the Sarawak, export of totally protected species requires a permit from the Controller of Wild Life after consultation with the Minister only for the purpose of research, education and protection of such species.

#### 8.3.2 Domestic

Movement within the states in Malaysia does not require any CITES permits but may require export and/or import license or permit. In Sarawak, such permit is issued by the Controller of Wild Life after consultation with the Minister only for the purpose of research, education and protection of such species.

### 8.4 Captive breeding and artificial propagation

No known captive breeding programs exists for *Lanthanotus borneensis* but captive breeding has been documented when in July 2014 a Japanese zoo claimed to have successfully achieved the world's first Earless Monitor Lizards offspring hatched in captivity. The zoo stated 10 eggs had been produced in total. In September 2014, the first egg hatched but it was reported that the hatchling died on the same day, it is not currently known how well the species breed in captivity (Nijman & Stoner, 2014).

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.

### 8.5 Habitat conservation

This is a very cryptic, rare and of least known species among reptiles. In the state of Sarawak, location where it occurs will be protected in accordance with provision in Wild Life Protection Ordinance 1998 if it occurs outside the protected area. There are 35 National Parks, 14 Nature Reserves and 4 Wild Life Sanctuaries covering in area of 673,980.40 hectares of land area in Sarawak.



## 8.6 Safeguards

In Malaysia, this species is Totally Protected in state of Sarawak under the Wild Life Protection Ordinance 1998, and is listed as Protected Species under the Wildlife Conservation Enactment 1997 in the state of Sabah. In addition, this species will be added as Totally Protected Species in the amendment of the Wildlife Conservation Act [Act 716] to cover whole of Malaysia.

## 9. Information on similar species

The postcranial skeleton of *Lanthanotus borneensis* is described and compared to that of Heloderma and Varanus. In an evolutionary sense, Lanthanotus is intermediate in structure between Heloderma showing relatively primitive and Varanus showing relatively advanced character states. This conclusion is well supported by the structure of the tarsus. Cladistically, Lanthanotus is the sister-taxon of Varanus, the two lineages together forming the sister-taxon of Heloderma, a conclusion based on the distribution of shared derived characters (Rieppel, 1980).

Varanoidea is an ancient group of anguimorph lizards comprising the two extant New World helodermatids (*Heloderma horridum* and *Heloderma suspectum*), the Bornean earless monitor (*Lanthanotus borneensis*) and the Old World (*Varanus*). Research published in 2001 confirmed the monophyly of Varanoidea (*Heloderma*, *Lanthanotus*, and *Varanus*) and *Varanus*, as well as the sister-taxon relationship of *Varanus* and *Lanthanotus* (Ast, 2001).

## 10. Consultations

This proposal was tabled during the 11th Meeting of the ASEAN Experts Group on CITES on 7-8 May 2015 in Bandar Seri Begawan, Brunei. It was also brought to the 28<sup>th</sup> meeting of the Animals Committee, Tel Aviv, Israel 30 August-03 September 2015 and received a wide support.

## 11. Additional remarks

None

## 12. References

- Ast J. C. (2001). Mitochondrial DNA Evidence and Evolution in Varanoidea (Squamata). *Cladistics* 17: 211-226.
- Auliya, M. (2006). Taxonomy, Life History, and Conservation of Giant Reptiles in West Kalimantan (Indonesia Borneo).
- Curran, L.M S., Trigg, N., McDonald, A. K., Astiani, D.M., Hardiono, Y.M., Siregar, P. (2004). Lowland Forest Loss in Protected Areas of Indonesian Borneo. *Science* 303: 1000-1003.
- Borsuk-Bialynika, M. (1984). Anguimorphans and related lizards from the late Cretaceous of the Gobi Desert, Mongolia. *Palaeontologia Polonica* 46: 5–105.
- Douglas, M. E., Douglas, M. R., Schuett, G. W., Beck, D. D., and Sullivan, B. K. (2010). Conservation phylogenetics of helodermatid lizards using multiple molecular markers and a supertree approach. *Molecular Phylogenetics and Evolution*. 55(1), 153-167.
- Harrisson T. (1963a) Earless Monitor Lizards in Borneo. *Nature* 198, 407 – 408.
- Leuteritz, T. E. J. (2015). United State Comment on AC28 Doc.22.3 and 22.5. E-mail communication dated on 17th September 2015.
- Nijman, V, and Stoner, S. S. (2014). Keeping an ear to the ground: monitoring the trade in Earless Monitor Lizards. TRAFFIC Petaling Jaya, Selangor, Malaysia.
- Partono, S. (2014). Rencana produksi reptile, amphibian dan mamalia (RAM) pet hasil penangkaran tahun 2014. Ministry of Forestry, Jakarta.

Proud, K. R. S. (1978). Some notes on a captive Earless monitor Lizard, *Lanthanotus borneensis* . Sarawak Museum Journal 26 (47): 235–242.

Rieppel, O. (1980). The postcranial skeleton of *Lanthanotus borneensis* (Reptilia, Lacertilia). Amphibia-Reptilia 1:95-112.

Sprackland, R. G. (1999). Sarawak's Earless Monitor Lizard (*Lanthanotus borneensis* ). Reptiles, March: 72-79.