Original language: English CoP18 Prop. XXX

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



Eighteenth meeting of the Conference of the Parties Colombo (Sri Lanka), 23 May – 3 June 2019

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

To include *Cophotis ceylanica* and *Cophotis dumbara*in Appendix I, in accordance with Res. Conf. 9.24 (Rev CoP17):

- I. Cophotis ceylanica meets Annex 1, criterion B (i), (iii) and (iv), as it has a restricted area of distribution with fragmented populations occurring at very few locations which are highly vulnerable to intrinsic and extrinsic factors and have suffered an observed, inferred or projected decrease in both area of distribution, area of habitat and quality of habitat.
- II. Cophotis dumbara meets Annex 1, criterion A (i) and (v) as well as criterion B (i), (iii) and (iv), with its small population, subject to a projected decline of individuals and an observed decline in quality of habitat and a high vulnerability to intrinsic and extrinsic factors, and restricted area of distribution with fragmented populations occurring at very few locations which are highly vulnerable to intrinsic and extrinsic factors and have suffered an observed, inferred or projected decrease in both area of distribution, area of habitat and quality of habitat.

B. Proponent

Sri Lanka

C. Supporting statement

1. Taxonomy

1.1 Class: Reptilia

1.2 Order: Squamata

1.3 Family: Agamidae

Cophotis ceylanica (Peters, 1861)

Cophotis dumbara (Samarawickrama et al., 2006)

1.4 Scientific synonyms: Cophotis dumbarae (Manamendra-Arachchi et al., 2006)

1.5 Common names: English:

Cophotis ceylanica: Pygmy lizard

Cophotis dumbara: Knuckles pygmy lizard

Sinhala:

C. ceylanica: Kuru Bodiliya, Kandukara kurukatussa

C. dumbara: Dumbara Kuru Bodiliya, Dumbara kurukatussa

1.6 Code numbers: None

2. Overview

This proposal is to list both species of genus *Cophotis* in Appendix I. *Cophotis sumatrana* was described by Hubrecht 1879 but was later transferred to genus *Pseudocalotes* (Moody 1980, Manthey & Grossmann 1997, Hallermann & Böhme 2000). *C. ceylanica* and *C. dumbara* are therefore the only two species in genus *Cophotis*.

Both species are endemic to Sri Lanka, occur only in restricted areas (Taylor 1953, Rajapaksha *et al.* 2006, Samarawickrama *et al.* 2006) and are seriously threatened. The IUCN Red List and the National Red List of Sri Lanka both classify *C. dumbara* as Critically Endangered (Samarawickrama *et al.* 2009, (MOE 2012; Wickramasinghe 2012). *C. ceylanica* is listed as Endangered in Sri Lanka's National Red List (MOE 2012; Wickramasinghe 2012), but remains unassessed by the IUCN Red List.

Since 1993, all Sri Lankan lizards have been protected under national legislation which prohibits hunting, capturing and exporting (Parliament of the Democratic Socialist Republic of Sri Lanka 2009).

The targeting of Sri Lanka's unique herpetofauna by smugglers has been observed for some time (e.g. Christie 2008, Hettige 2011, Rodrigo 2012), and in recent years an alarming abundance of adult Sri Lankan agamids, including both species of *Cophotis*, have been observed in European online adverts (Altherr 2014, Auliya *et al.* 2016). While *C. ceylanica* is more commonly observed in the international pet trade, *C. dumbara* has also been in trade since at least September 2016 (see Annex).

The majority of online advertisements for *Cophotis* specimens are by German and French traders, but traders from USA, Czech Republic, Malaysia, Switzerland, Russia and United Kingdom have also been noted. To date, adverts for *C. dumbara* have not included prices, but *C. ceylanica* is sold for between 280 € and 750 € each (see Annex), indicating a lucrative trade.

Accordingly, Sri Lanka is of the opinion that the criteria outlined in Res. Conf. 9.24 (Rev. CoP17) Annex 1, criterion A (i), (ii) and (v), criterion B (i), (iii) and (iv) as well as criterion C (ii) apply to *C. dumbara* and *C. ceylanica*. National conservation and protection measures seem to be insufficient to save these lizards from unlawful collection and smuggling to the pet markets in Europe, USA and certain Asian countries. A listing in Appendix I of CITES is therefore necessary to activate the protection of this species by import and reexport Parties.

3. Species characteristics

3.1 Distribution

The central and the Knuckles hills are located within the "wet zone" and host eleven of Sri Lankas's 17 agamid species, including *Cophotis ceylanica and Cophotis dumbara* (Taylor 1953, Bahir & Surasinghe 2005, Samarawickrama *et al.* 2006).

C. ceylanica is found in high altitude sites – elevations above 1.700 m – of Sri Lanka's Central massif including Nuwara Eliya, Hakgala, Horton Plains, Peak Wilderness range and Piduruthalagala (Taylor 1953, Samarawickrama *et al.* 2006). Its extent of occurrence is less than 5,000 km², with it its area of occupancy less than 500 km² (MOE 2012).

C. dumbara is restricted to an area less than 100 km² in the Knuckles massif (7°18'-7°34' N 80°41'-80°55' E) at an elevation of ~1.400 m (De Silva et al. 2005, Samarawickrama et al. 2006, Samarawickrama et al. 2009). The Knuckles massif is separated from the central hills by the broad Mahaweli River valley (Taylor 1953, De Silva et al. 2005, Rajapaksha et al. 2006, Samarawickrama et al. 2006). This species has an extent of occurrence of less than 100 km² and an area of occupancy of less than 10 km² (MOE 2012).

3.2 Habitat

C. ceylanica occurs in diverse habitats including cloud forest, botanical gardens and home gardens at high altitude sites of the central hills (Manamendra-Arachchi *et al.* 2006, Samarawickrama *et al.* 2006).

C. dumbara has been found in cardamom (*Elettaria cardamomum*) cultivations with big trees. They are highly active in the morning and afterwards they prefer to rest on the edge of tree branches in an altitude of about 1.5 m to 3 m. Due to their colouration *C. dumbara* is very well camouflaged on moss-covered tree trunks. This species is able to jump up to 0.5 m (Samarawickrama *et al.* 2006).

3.3 Biological characteristics

Agamids, including *C. ceylanica* and *C. dumbara*, are diurnal and visually-orientated (Heying undated). Ovoviviparity of *C. ceylanica* was first documented in 1906 (Willey 1906, Tyron 1977). On this basis, Samarawickrama *et al.* (2006) speculated that *C. dumbara* is also viviparous, although no reproduction has been recorded to date. According to Kästle (1966) *C. ceylanica* gives birth to five live young, sized at 47-50 mm. Social interactions include head-bobbing, in response to threats as well as an act of aggression between males (Kästle 1966).

3.4 Morphological characteristics

Both species — *C. ceylanica* and *C. dumbara* — have a compressed body, covered with large overlapping scales, a flabby neck and back crest. Their tail is short and prehensile (Boulenger 1890). *C. dumbara* is marginally smaller than *C. ceylanica*, with a maximal 65.2 mm snout-vent length (SVL) in *C. ceylanica*, compared to 60.0 mm SVL in *C. dumbara* (Samarawickrama *et al.* 2006). According to Samararawickrama *et al.* (2006) and Manamendra-Arachchi *et al.* (2006) *C. dumbara* can be distinguished from *C. ceylanica* by its greater mid ventral scale count; non-carinate, granular midgular scales; smoothly craniate, obtuse chest scales, triangular ventral scales; and a less well-developed gular sac.

The dorsal side of *C. ceylanica* is of olive colour with irregular dark-brown cross bands. Along the side of the body run brown lines and the tail shows dark annuli. The nuchal crest consists of 3 or 4 lanceolate spines; both sexes have a very small gular sac (Boulenger 1890). Samarawickrama *et al.* (2006) stated that the gular sac of female *C. ceylanica* is yellow with dark brown strips on gular scales, while the gular sac of males is dark-yellow, covered by blackish brown gular scales. Males have a small tubercle on the snout.

Compared to *C. ceylanica*, the throat fan of *C. dumbara* is less developed, with infralabials and all gular and ventral scales smaller (Samarawickrama *et al.* 2006). According to Samarawickrama *et al.* (2006), females of *C. dumbara* have a yellow throat; the gular sac is yellow with dark brown strips on its scales. Males have a brown throat with dark brown colour strips on gular scales while the gular sac is dark yellow and possess blackish brown gular species. The dorsal side of female *C. dumbara* is coloured in light green with three "V" shaped white bands, while males have a creamy white colour with three creamy strips and six white bands on the dorsal side of the tail. The ventral shows a light grey colouration with dark grey vertical strips for the females and a dark brown for the males, including six light brown bands (Samarawickrama *et al.* 2006). Additionally, females have a diamond shaped yellow patch between nuchal crest and the base of the head as well as a yellowish-white "U"-shaped patch between the eye and the nostril on the dorsal side. Along the margins of upper and lower lips a luminous green band is visible (Samarawickrama *et al.* 2006). The normal body colouration of male *C. dumbara* is luminous green with significant yellow bands. Samarawickrama *et*

al. (2006) reported that numerous tubercles are present on the head and the area from head to dorsal crest is luminous green with a "V" shape patch.

3.5 Role of the species in its ecosystem

Pygmy lizards are insectivorous (Kästle 1966). The diet of *C. dumbara* consists primarily of small moths (Samarawickrama *et al.* 2006). Potential predators are arboreal snakes, birds including birds of prey, small carnivores, and other lizards; for example *C. ceylanica* has been documented as prey of craws (*Corvus macrorhynchos*) (Karunarathna & Amarasinghe 2008), while *Calotes nigrilabris* was observed feeding on young *Cophotis ceylanica* (de Silva 2006 and literature herein).

4. Status and trends

4.1 Habitat trends

Deforestation in Sri Lanka is a serious threat to its unique biodiversity: Timber extraction and clearing of forest for tea plantations have already destroyed large areas. Sri Lanka's natural forest cover has dwindled from 80% to less than 16% over the last 100 years: while at the end of the 19th century, more than 80% of the country was covered by forest; at the beginning of the 20th century this rate had been reduced to 70 % and in 1950 only half of the land area remained forested. By the beginning of the 1990s remaining forest cover was less than a quarter of the country, and in 2007 only 17% remaining forest coverage was recorded. Given the likelihood of this ongoing deforestation, it is feared that by the end of 2030 less than 10% of forest cover will remain in Sri Lanka (Kariyawasam & Rajapakse 2014). According to Erdelen (2012) the forests of the wet zone and the central hill range have become highly fragmented and no continuous primary forest cover remains from sea level to over 2,500 m of the central hill range.

4.2 Population size

Within one year of its discovery in 2006, *C. dumbara* was classified in Sri Lanka's National Red List as Critically Endangered (IUCN Sri Lanka and the Ministry of Environment and Natural Resources 2007). This status was confirmed in the national Red List of 2012 (MOE 2012; Wickramasinghe 2012) and in the global IUCN Red List (Samarawickrama *et al.* 2009).

In 2005, *C. ceylanica* was described as rare (Bahir & Surasinghe 2005, Wickramasinghe 2012). This is reflected in its classification as Endangered in the 1998 Conservation Assessment and Management Plan report, in the national Red List of 2007 (IUCN Sri Lanka and the Ministry of Environment and Natural Resources 2007) and of 2012 (MOE 2012; Wickramasinghe 2012).

4.3 Population structure

C. ceylanica is severely fragmented and is only known from a few discrete, isolated mountain-top populations (MOE 2012; Bahir & Surasinghe 2005). The *C. dumbara* population is also believed to be severely fragmented (MOE 2012).

4.4 Population trends

Several declines in populations of *C. ceylanica* have been documented in the past: in 1998 the *C. ceylanica* population was thought to have been decimated by more than 50% within the previous decade and future declines were predicted (CAMP 1998). In the first quarter of 1992 a serious loss was suffered around Hakgala (1,500 m) and Nuwara Eliya (1,800 m), when hundreds of dead specimens were found within a few days, caused by an extended drought with high temperatures (de Silva 2006 and literature herein).

Recent accurate data on the current population trend of *C. ceylanica* and *C. dumbara* are not available. However, the severe decline in certain types of habitat favoured by the two species is concerning, and the assumption that their populations are decreasing is reflected in their national Red List classification as Endangered and Critically Endangered, respectively (MOE 2012; IUCN Sri

Lanka and the Ministry of Environment and Natural Resources 2007).

4.5 Geographic trends

No available data.

5. Threats

The rate of forest depletion and loss of wild life habitats in Sri Lanka is considered one of the highest in South Asia with more than 50% of the forest cover being lost over the last century (Dela 2009). In addition to deforestation the widespread use of agrochemicals and effects of climate change are well documented threats (Schaefer 1998, Bahir & Surasinghe 2005, Samarawickrama *et al.* 2009, Erdelen 2012, Wickramasinghe 2012). According to Bahir and Surasinghe (2005) only ~5 percent of the original extent of the wet zone remains, and even this is heavily fragmented. Large areas of the tropical montane cloud forest were destroyed by human activities such as under-planting cardamom, clearance for tea cultivation and timber extraction (Kariyawasam 1991, Werner 2001, Bahir & Surasinghe 2005).

Due to the rapidly growing human population the demographic pressure is steadily increasing and the destruction of the forest patches continues (Bahir & Surasinghe 2005). Since most endemic and threatened reptiles are restricted to the highly fragmented cloud forests of the wet zone, many of them, including the genus *Cophotis*, are facing a high extinction risk (Bahir & Surasinghe 2005, Samarawickrama *et al.* 2009, Wickramasinghe 2012). *C. dumbara* can be found in forest patches, underplanted with cardamom, where seasonal clearing of understory leaves this species exposed to a very high predation pressure (Samarawickrama *et al.* 2006).

In recent years, an additional threat has been observed: illegal capture of *Cophotis* specimens from the wild for the international pet trade, where high prices of up to 750€ per individual make smuggling a lucrative business. Until now the main target species has been *C. ceylanica* but offers of *C. dumbara* have recently been documented (see Annex).

6. Utilization and trade

6.1 National utilization

None.

6.2 Legal trade

Until the mid 1980s some legal exports from Sri Lanka for commercial purposes were permitted (Somaweera *in litt.* 2014). However, only over the past few years, once strict national legislation had been long in place, significant numbers of adult specimens have been appearing in international trade (Auliya *et al.* 2016; Krvavac 2015; Altherr 2014).

6.3 Parts and derivatives in trade

Only live individuals are known to be in trade.

6.4 Illegal trade

A significant number of adult Sri Lankan agamids, including *Cophotis* specimens, have shown up in the international pet market over the last few years. Although it is impossible to rule out that these individuals are the offspring of specimens exported before national legislation became more restrictive, there is a substantial and growing body of evidence suggesting that a concerted effort is invested in their smuggling (eg. Somaweera 2014). In addition, it has been estimated that most of the recent trade is in illegally caught specimens or offspring of an illegally taken breeder stock (Auliya *et al.* 2016).

Targeting gravid females so that offspring can be later presented as "captive-bred" is a technique commonly practiced by reptile collectors (Smith 2011; Adams 2012; New Zealand 2013; Fullerton 2014; Auliya et al. 2016). In addition, genuinely captive-bred specimens of recently smuggled adult specimens would be a result of illegally acquired breeding stock.

Hettige (2011) stated: "Endemic and non endemic reptiles from Sri Lanka have been smuggled out of the country and auctioned in Germany." Bahir (2015) and Krvavac (2015) noted the wide array of individuals involved in poaching agamids from the wild: professional collectors, local villagers, scientists and 'tourists' acting as couriers for traders.

Europe:

According to Auliya *et al.* (2016), an alarming abundance of adult Sri Lankan agamids has been documented in European online advertisements, since late 2013. These traders smuggle Sri Lankan agamids to Europe, offering them at high prices, e.g. *C. ceylanica* 2,200€ for a breeding trio. The first documented online advertisement for *C. ceylanica* was by a Swiss national on www.terrarisik.com in December 2013, for sale in "Hamm", Germany, one of the largest reptile trade shows worldwide. Since that time regular advertisements have been found at European online platforms such as www.terraristik.com and in Facebook groups. The prices vary between 280€ to 600€ per male, while adult breeding pairs are sold for up to 1,500€. The majority of these offers are advertised by German and French traders, while adverts from Switzerland, United Kingdom, Russia, and Czech Republic have also been recorded. While several trades offer "captive-bred" specimens, the high volume of adult animals indicates ongoing captures from the wild.

In May 2015, C. dumbara was offered for the first time in Europe by a German trader.

Asia: In 2008 a Malaysian reptile smuggler was reported as supplying US and European traders and collectors with Sri Lankan endemic reptiles (Christie 2008). Again, in December 2014, a trader from Malaysia advertised specimens of a variety of Sri Lankan endemic agamids, including *C. ceylanica*, at the European online platform www.terraristik.com.

<u>USA</u>: The U.S. Fish and Wildlife Service Law Enforcement Management Information System does not document any trade in *Cophotis* spp (LEMIS 2017). However, both species have also been spotted in advertisements by US traders: *C. ceylanica* (first online adverts spotted in May 2015) were offered for USD 1,350/pair, while males are cheaper (USD 350-500).

Three out of four *C. dumbara* traders were US citizens. The advertisements followed in quick succession – September and November 2016 as well as January 2018 – suggesting that a smuggling event had taken place not long before. In the advert of January 2018, two adult pairs of *C. dumbara* were advertised for USD 2,250, and the trader highlights "this species was discovered in 2006 and is very rare and critically endangered", claiming these animals would have been "the 1st ones ever imported into the USA".

Refer to Annex for further information on the above examples.

6.5 Actual or potential trade impacts

Deforestation, leading to loss of habitat and habitat fragmentation, are the main threats faced by reptile fauna of Sri Lanka. International pet trade as an additional risk factor is a relatively new but potentially serious threat to their persistence in the wild.

The high demand in international pet trade, reflected in prices of up to 2,200€ for a breeding trio of *Cophotis ceylanica*, renders illegal capture and smuggling a highly lucrative business (Altherr 2014, Auliya *et al.* 2016). Sri Lanka's national Red List classifies *C. ceylanica* as Endangered, *C. dumbabra* as Critically Endangered (MOE 2012) — with the latter being highly prone to over-exploitation or even extirpation due to the small area of occupancy of less than 10 km². Accordingly, offtakes of even small numbers, especially of mature or even gravid females, may have a significant impact on remaining populations (Krvavac 2015, Altherr 2014).

Pygmy lizards are slowly moving animals, which makes them easy to collect. In particular, *C. dumbara* can be picked up easily during seasonal clearing of cardamom plantations (Samarawickrama *et al.* 2006).

7. Legal instruments

7.1. National

In accordance with Section 30 of the Seventh amendment to the Fauna and Flora Protection Ordinance of Sri Lanka (1993) all reptiles (except for five highly venomous snakes) are protected species, and thus cannot be collected, even outside of protected areas.

Section 40 of the FFPO completely prohibits the export from Sri Lanka of any reptile, whether dead or alive; or the eggs or skin of any reptile; or any other part of a reptile, without a permit from the Director General of the Department of Wildlife Conservation. Exceptions are only possible for the promotion of scientific knowledge and research.

Cophotis spp. are classified as 'strictly protected species', resulting in significantly higher fines for any trade in these species.

7.2 International

None

8. Species management

8.1 Management measures

There are no listed management measures for this species.

8.2 Population monitoring

No known monitoring exists.

8.3 Control measures

8.3.1 International

None.

8.3.2 Domestic

In Sri Lanka, all endemic reptile species have full legal protection against deliberate harm or collection from the wild. A permit issued by the Department of Wildlife Conservation is mandatory to perform any ex-situ or in-situ activity that involves a protected reptile species. Ranching and breeding of reptile species is not permitted in Sri Lanka (Ratnayake 2011). Section 40 of the Flora and Fauna Protection Ordinance completely prohibits the export from Sri Lanka of any reptile whether dead or alive; or the eggs or skin of any reptile; or any other body part of a reptile, without a permit from the Director General of the Department of Wildlife Conservation (Ratnayake 2011). Exceptions are only possible for the promotion of scientific knowledge and research.

8.4 Captive breeding and artificial propagation

No available information.

8.5 Habitat conservation

Sri Lanka currently has over 500 protected areas including over 90 key biodiversity areas recently identified jointly by the Wildlife Heritage Trust and the University of Peradeniya (IBP 2015). According to Erdelen (2012) the most recent significant international achievement for Sri Lankan wildlife conservation has been the recognition of the Central Highlands of Sri Lanka (including the Peak Wilderness Protected Area, the Horton Plains National Park, and the Knuckles Conservation Forest) as a World Heritage Site. As stated in the relevant text of the World Heritage Committee (34 COM 8B.9) decision: "the property includes the largest and least disturbed remaining areas of the submontane and montane rain forests of Sri Lanka, which are a global conservation priority on many accounts....(t)hey include areas of Sri Lankan montane rain forests considered as a super-hotspot within the Western Ghats and Sri Lanka biodiversity hotspot" (UNESCO 2010). This new World Heritage Site is of outstanding importance to the long-term conservation of a significant proportion of Sri Lanka's herpetofauna and its fauna and flora in general (Erdelen 2012). These benefits apply to genus *Cophotis* since populations are found within the World Heritage Site.

8.6 Safeguards

Not applicable

9. Information on similar species

According to Manamendra-Arachchi *et al.* (2006), the genus *Cophotis* can be distinguished from other agamid genera by the presence of squamous, fleshy bulb on snout; nuchal and dorsal crests; a prehensile tail; large, chaotically arranged dorsal scales; a reduced gular sac; and the absence of a tympanum, and femoral and preanal pores (Smith 1935; Deraniyagala 1953; Taylor 1953; Moody 1980).

10. Consultations

European Union and United States of America

11. Additional remarks

None

12. References

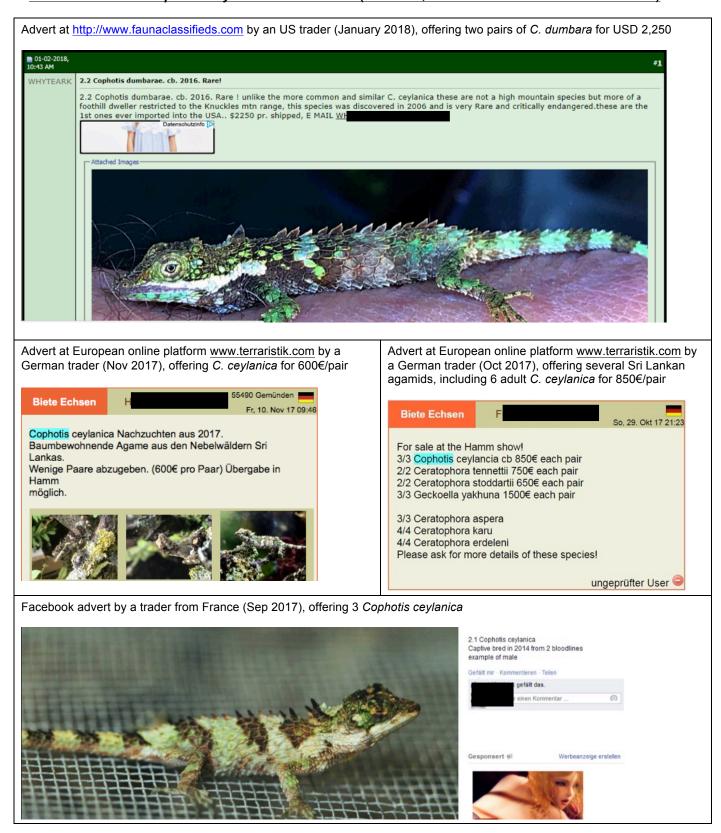
- Adams, M. (2012): Rare sungazers pose tough challenge for conservators. Available at http://www.nzg.ac.za/newsletter/issues/20/04.php
- Altherr, S. (2014): Stolen Wildlife Why the EU needs to tackle smuggling of nationally protected species. Pro Wildlife (ed.), Munich, Germany, 32 pp.
- Anon. (2010): Lankan reptiles not for export or exploitation, says environmentalist. *Sunday Times Sri Lanka*, Article of 10th October. http://www.sundaytimes.lk/101010/News/nws 22.html
- Auliya, M. *et al.* (2016): Trade in live reptiles, its impact on wild populations, and the role of the European market. *Biological Conservation*. DOI: 10.1016/j.biocon.2016.05.017
- Bahir, M. (2015): in litt to M. Krvavac, dated 1st July.
- Bahir, M. & Surasinghe, T. (2005): A conservation assessment of the Sri Lankan agamidae (Reptilia.Sauria). *Raffles Bull. Zool.* Supplement No. 12: 407–412.
- Boulenger, G. (1890): The Fauna of British India Including Ceylon and Burma: Published Under the Authority of the Secretary of State for India in Council. Reptilia and Batrachia. Taylor & Francis (eds.).
- CAMP (1998): Conservation Assessment and Management Plan workshop for reptiles and amphibians of Sri Lanka. 219 pp, available at

- http://zooreach.org/downloads/ZOO_CAMP_PHVA_reports/1998%20Sri%20Lanka%20Amp%20and%20Rep%20CAMP%20Report.pdf
- Christie, B. (2008): The Lizard King: The True Crimes and Passions of the World's Greatest Reptile Smugglers. Twelve (ed.), 241 pp.
- Deraniyagala, P. (1953): A coloured atlas of some vertebrates from Ceylon: *Tetrapod Reptilia* (Vol. 2). Ceylon Govt. Press.
- De Silva, A. (2015): in litt to Altherr, Pro Wildlife, dated 29th June 2015.
- De Silva, A. (2006): Current Status of the Reptiles of Sri Lanka. In: *The Fauna of Sri Lanka: Status of Taxonomy, Research and Conservation*. C. Bambaradeniya (ed.). The World Conservation Union, Colombo, Sri Lanka & Government of Sri Lanka. Pp. 134-163.
- De Silva, A. *et al.* (2005): Status of the agamids in the Knuckles Massif with special reference to *Calotes liocephalus*, Günther, 1872 and *Cophotis ceylanica*, Peters, 1861. *Lyriocephalus* (special issue) 6: 43-7.
- Erdelen, W. (2012): Conservation of biodiversity in a hotspot: Sri Lanka's amphibians and reptiles. *Amph. Rept. Conserv.* 5(2): 33-51.
- Fullerton, J. (2014): The Politics of Contraband & The Reptile Smuggler's Blues. The Libertarian Enterprise 789. Available at http://www.ncc-1776.org/tle2014/tle789-20140921-03.html
- Hallermann, J., & Böhme, W. (2000): A review of the genus *Pseudocalotes* (Squamata: Agamidae), with description of a new species from West Malaysia. *Amphibia-Reptilia* 21(2), 193-210.
- Hettiarachchi, K. (2010): EDB tries to take sting out of reptile export controversy. *Sunday Times Sri Lanka*, Article of 17th October.
- Hettige, P. (2011): Action against smuggling of reptiles. The Island, online http://www.island.lk/index.php?page_cat=article-details&page=article-details&code_title=23361
- Heying, H. (2006): Agamidae. Animal Diversity Web. http://animaldiversity.ummz.umich.edu/site/accounts/information/Agamidae.html
- IUCN (2012): Red List Categories and Criteria: Version 3.1. *IUCN Species Survival Commission, Gland, Switzerland*. www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria.
- IUCN Sri Lanka and the Ministry of Environment and Natural Resources (2007): The 2007 Red List of Threatened Fauna and Flora of Sri Lanka, Colombo, Sri Lanka, xiii+148pp.
- Kästle, W. (1966): Beobachtungen an ceylonesischen Taubagamen (*Cophotis ceylanica*). *Salamandra* 2: 78-87.
- Kariyawasam, D. (1991): Resource use and settlement in the forests of the Knuckles Range. *The Sri Lanka Forester*, *20*, 3-13.
- Kariyawasam, R. & Rajapakse, C. (2014): Impact of Development on deforestation in Sri Lanka: An analytical study. OSR *J. Environ. Sci. Toxicol. Food Technol.* 8(7): 35-39.
- Karunaratne, N. (1986): Udavattekale, the Forbidden Forest of the Kings of Kandy. Government printers, Colombo. Sri Lanka.
- Karunarathna, D. & Amarasinghe, A. (2008): An Observation of the Jungle Crow (Aves: Corvidae) feeding on Ceylon Pygmy Lizards, *Cophotis ceylanica* (Reptilia: Agamidae) at Horton Plains NP in Sri Lanka. *Sauria* 30: 59-62.
- Krvavac, M. (2015): in litt to Altherr, Pro Wildlife, dated 29th June.
- LEMIS (2017): Imports and exports of Sri Lankan agamids for 2000-2017. Trade data provided by U.S. Fish and Wildlife Service Law Enforcement Management Information System
- Maduwage, K., *et al.* (2008): Phylogenetic implications of hemipenial morphology in Sri Lankan agamid lizards. *Current Science* 95(7): 838-840.
- Manamendra-Arachchi, K., de Silva, A., & Amarasinghe, T. (2006): Description of a second species of Cophotis (Reptilia: Agamidae) from the highlands of Sri Lanka. *Lyriocephalus* 6(Suppl 1): 1-8.

- Manthey, U. & Grossmann, W. (1997): Amphibien & Reptilien Südostasiens. Natur-und-Tier-Verlag.
- MOE (2012): The National Red List 2012 of Sri Lanka; Conservation Status of the Fauna and Flora. Ministry of Environment, Colombo, Sri Lanka. viii + 476pp.
- Moody, S. M. (1980). Phylogenetic and historical biogeographical relationships of the genera in family Agamidae (Reptilia: Lacertilia). *PhD Thesis, Univ Michigan*.
- Myers, N. et al. (2000): Biodiversity hotspots for conservation priorities. Nature 403(6772): 853-858.
- New Zealand (2013): CITES CoP16 Prop. 23 to transfer all species of geckos in the genus Naultinus from Appendix III to Appendix II. https://cites.org/sites/default/files/eng/cop/16/prop/E-CoP16-Prop-26.pdf
- Parliament of the Democratic Socialist Republic of Sri Lanka (2009): Fauna and Flora Protection (Amendment) Act, No. 22. Published as a Supplement to Part II of the Gazette of the Democratic Socialist Republic of Sri Lanka of April 24, 2009
- Peters, W. (1861): Eine neue Gattung (sic) von Eidechsen, *Cophotis ceylanica*, aus Ceylon vor. Monatsberichte der Königlichen Preußischen Akademie der Wissenschaften zu Berlin, (1861 Dec.): 1103-1105.
- Rajapaksha, D. *et al.* (2006): Herpetofaunal diversity in Dothalugala man and Biosphere Reserve, of the Knuckles Forest Range, Sri Lanka. *Russian Journal of Herpetology* 13(2): 120-134.
- Rodrigo, M. (2012): Wildlife officers raid Kalpitiya hotel, arrest six tourists, seize protected wildlife species. *Sunday Times Sri Lanka*, Article of 4th March. Available at www.sundaytimes.lk/120304/News/nws_44.html
- Samarawickrama, V. et al. (2006): A new species of the genus *Cophotis* (Squamata: Agamidae) from Sri Lanka. *Russ. J. Herpetol.* 13: 207-214.
- Samarawickrama, V. *et al.* (2009): *Cophotis dumbara*. The IUCN Red List of Threatened Species 2009: e.T169677A6666297. http://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T169677A6666297.en. Downloaded on 21 December 2017.
- Schaefer, D. (1998): Climate change in Sri Lanka? Statistical analyses of long-term temperature and rainfall records. In: Sri Lanka: past and present archaeology, geography, economics selected papers on German research. Margraf Verlag, Weikersheim, 103-117.
- Smith, J. E. (2011): Stolen World: A Tale of Reptiles, Smugglers, and Skulduggery. Crown/Archetype, 336 p
- Smith, M. A. (1935): The fauna of British India, including Ceylon and Burma. Taylor And Francis (eds.), Red Lion Court; London.
- Somaweera, R. (2013): in litt. to M. Auliya 14th October.
- Somaweera, R. (2014): in litt. to Altherr, Pro Wildlife, dated 1 July
- Taylor, E. H. (1953): A review of the lizards of Ceylon. *University of Kansas Science Bulletin* 35: 1525-1585.
- Tyron, B. W. (1977): Notes on the reproduction of the lizard *Cophotis ceylanica*. *Br. J. Herpetol*, *5*, 845-847.
- Werner, W. L. (2001): Sri Lanka's magnificent cloud forests. Wht Publications.
- Wickramasinghe, L. J. (2012): The Taxonomy and Conservation Status of the Reptile Fauna in Sri Lanka. In: The National Red List 2012 of Sri Lanka; Conservation Status of the Fauna and Flora. Weerakoon, D.K. & S. Wijesundara (Eds.), Ministry of Environment, Colombo, Sri Lanka, pp 99-113.
- Willey, A. (1906): Viviparity of *Cophotis ceylanica* and oviparity of *Ceratophora stoddartii*. Spolia Zeylanica 3: 235-237.
- ZZF (2010): Deutsche Zoofachleute auf Sri Lanka verbesserten Importchancen auf der Spur. 11/2010: 62.

Annex 1

Online adverts for Cophotis ceylanica and dumbara (selection, order from newest to oldest adverts)



Facebook advert by a trader from France (Aug 2017), offering Cophotis ceylanica males 300€/each



Advert at European online platform www.terraristik.com by a trader from Germany (Aug 2017), offering several Sri Lankan agamids, including 4 *Cophotis ceylanica* for 850€/pair



Facebook advert in Facebook Group "International trade agamidae" by a trader from Germany (June 2017), showing Cophotis ceylanica

Well Camouflaged: Young Cophotis



Advert in Facebook Group "Terraristika Hamm – Terraristik Börse" by a trader from Germany (July 2017) for pairs/ groups of young *Cophotis ceylanica* 600€/pair

Cophotis ceylanica CB 2017

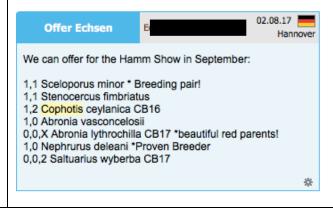
600€

9 Gemünden, Rheinland-Pfalz, Germany

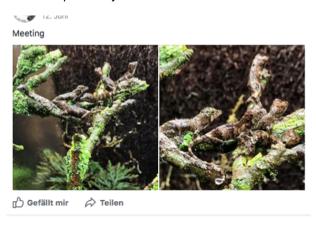
Vorbestellung für Hamm September: Cophotis ceylanica Jungtiere 600€ / Paar



Advert at European online platform www.enimalia.com by a trader from Germany (Aug 2017), offering 3 *C. ceylanica*



Facebook advert in Facebook Group "International trade agamidae" by a trader from Germany (June 2017), showing several *Cophotis ceylanica*



Advert in Facebook Group "International trade agamidae" by a trader from UK (May 2017), showing *C. ceylanica offspring*

Another season ... more children ... newborn Cophotis ceylanica.



Advert in Facebook Group "International trade agamidae" by a German trader (April 2017), showing *C. ceylanica*

Cophotis ceylanica - 2 days old and a female Pseudocalotes tympanistriga feasting on a cricket.



Advert in Facebook Group "Terraristika Hamm - Marktplatz" by a German trader (Jun 2017), offering several Sri Lankan agamids, including adult *C. ceylanica* for 600-800€/pair



Sale for the Hamm show:

Ceratophora stoddartii females 0/4 300,00€

Ceratophora tennentii 700,00 € pair

Salea horsefieldii CB 800,00 € pair

Sceloporus minor CB 800,00 € pair

Cophotis ceylancia young CB 600,00 € pair

Cophotis ceylancia adult CB 800,00 € pair

Lamprolepis (Darsia) smaragdina 0/0/2 80,00 € each maybe a pair

Gastropholis prasina CB 2013 1300,00€ pair

Advert at European online platform www.terraristik.com by a trader from Slovenia (May 2017), offering Cophotis ceylanica



Facebook advert by a trader from UK (May 2017), offering Sri Lankan agamids, including *Cophotis ceylanica* for 600€ -850€/pair



Special Sale for Hamm!!!

FREE

Special Sale for Hamm!!!

Cyrtodactylus (Geckoelle) yakhuna pair (only PM!!!) No time waster!

Salea horsefieldii CB 950,00 € pair

Sceloporus minor CB 800,00 € pair

Cophotis ceylancia young CB 600,00 € pair

Cophotis ceylancia adult CB 850,00 € pair

Lamprolepis (Darsia) smaragdina 0/0/2 90,00 € each maybe a pair

Calotes Calotes 250,00 € pair

Calotes nigrilabris 300,00 € pair

Ceratophora stoddarti 900,00 € pair

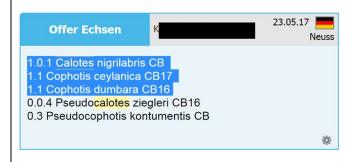
Ceratophora tennetii 1.150,00 € pair

Lyriocephalus scuttatus 1.500,00 € pair

Advert in Facebook Group "International trade for agamidae" by a trader from Germany (March 2017) for Cophotis ceylanica



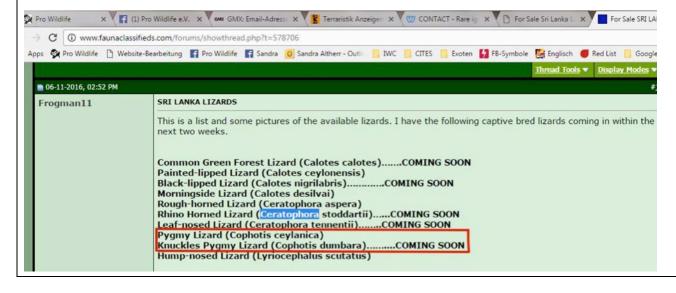
Advert at European online platform www.enimalia.com by a trader from Germany (May 2017), offering Sri Lankan agamids, including 2 *C. ceylanica* and 2 *C. dumbara*



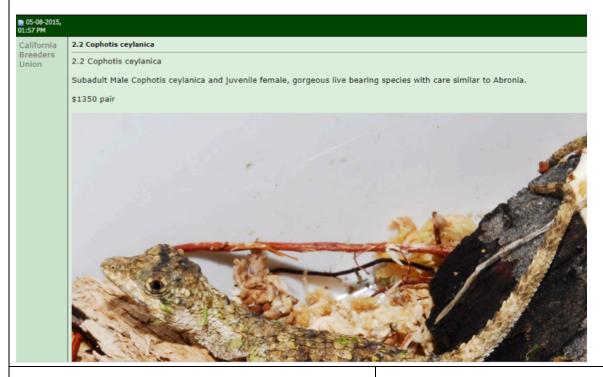
Advert in Facebook Group "International trade for agamidae" by a German trader (February 2017) for an adult *Cophotis ceylanica*



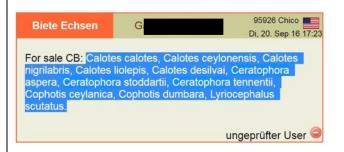
Announcement at faunaclassifieds.com by a trader from USA (Nov 2016) for several Sri Lankan agamids, including *Cophotis ceylanica* and *Cophotis dumbara*



Advert at http://www.faunaclassifieds.com by an US trader offering 2 pairs of C. ceylanica for USD 1,350 / pair.



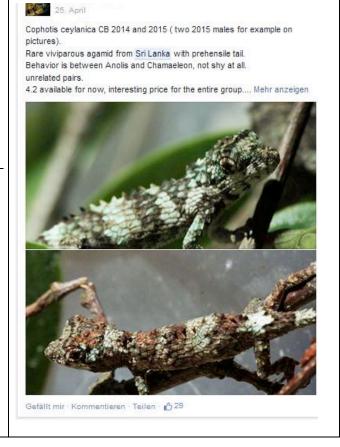
Advert at European online platform www.terraristik.com by an US trader (Sep 2016), offering several Sri Lankan agamids, including Cophotis ceylanica and C. dumbara



Advert at European online platform www.terraristik.com by a German trader (Sep 2015), offering several Sri Lankan agamids, including 2 *C. ceylanica* for 280€/each



Facebook advert by a French trader (April 2016) for six *C. ceylanica*, highlighting their rarity



Advert at European online platform www.terraristik.com by a trader from France (Jun 2015), offering several Cophotis ceylanica for 350€/male - 800€/pair



Advert at European online platform www.terraristik.com by a trader from Germany (Jun 2015), offering several groups of Cophotis ceylanica for 400€/each



Advert by a Russian trader in the Facebook group "Rare Reptiles Classifieds" (May 2015) for several Sri Lankan agamids, including adult males of *C. ceylanica*



Adverts at European online platform www.terraristik.com by two German traders (March 2015), offering several *C. ceylanica*



Advert at European online platform <u>www.terraristik.com</u> by a trader from France (March 2015), offering 3 adult *Cophotis ceylanica* and two offspring for 400€/male - 1.000€/pair



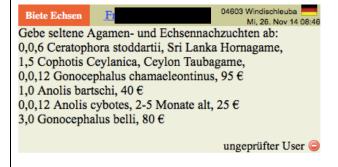
Advert at European online platform www.terraristik.com by a German trader (March 2015), offering 2 adult *C. ceylanica*



Advert at European online platform www.terraristik.com by a trader from Malaysia (Dec 2014), offering several Sri Lankan agamids, including Cophotis ceylanica



Advert at European online platform www.terraristik.com by a trader from Germany (Nov 2014), offering several Sri Lankan agamids, including 6 Cophotis ceylanica



Facebook advert by a trader from France (Oct 2014), offering C. ceylanica 1.500€/pair



