## Inclusion of all species of African Pygmy Chameleons in the genera *Rhampholeon* and *Rieppeleon* in Appendix II

## Proposal 27 Proponents: Central African Republic, Chad, Gabon, Kenya, Nigeria and the United States of America

## Proposal 28 Proponent: Kenya

***Note:*** *Proposals 27 and 28 are identical in intent. One analysis is presented for the two.*

**Summary:** The proposals seek to include all species of *Rhampholeon* and *Rieppeleon* in Appendix II. *Rieppeleon* (three species) and *Rhampholeon* (22 species) are both genera of pygmy chameleons occurring in Africa. *Rieppeleon* spp. are distributed across Eastern Africa inhabiting lowland forests and non-forest habitats, including grassland, wet and dry savannah and woodland. *Rhampholeon* spp. occur in Western, Central and Eastern African and tend to be confined to montane forests. They appear to be at greater risk from habitat alteration and loss than *Rieppeleon* spp. as most species have more restricted ranges, more specialised habitat requirements and do not adapt as well to altered habitats.

Only two species of *Rieppeleon* and one of *Rhampholeon* have been reported in trade in any number:

***Rieppeleon brevicaudatus*** is widespread across United Republic of Tanzania (Tanzania) and occurs in a small part of southeast Kenya. It has an estimated extent of occurrence of 163,800km$^2$, of which less than 10% is forest. It is reported to be locally abundant at lower elevations in forest and disturbed habitats, but less common in disturbed forests at higher elevation (ca. 800m)[1]. Much of its habitat is within protected areas[2]. Surveys conducted in 2009 in the Amani Nature Reserve in Tanzania (at ca. 900m elevation), encountered it very infrequently along edge habitats. The species is subject to harvesting for the international pet trade. US trade data reported an average of almost 5000 imported annually into the USA between 2004 and 2013, almost all from Tanzania[6]. The species is also found in offers for sale in Europe. Shipments of *Ri. brevicaudatus* are apparently frequently mislabelled as other species of *Rhampholeon* and *Rieppeleon*. Classified in the IUCN Red List as Least Concern (2014).

***Rieppeleon kerstenii*** occurs widely in Ethiopia, Kenya, Somalia, and Tanzania. It is reported to be common, although there are no quantitative population data. US trade data indicate an average of ca. 8200 imported annually between 2004 and 2013 into the USA, all from Tanzania[6]. The species is also found in offers for sale in Europe. Some shipments labelled as *Ri. kerstenii* are reportedly in reality to comprise *Ri. brevicaudatus* and *Rh. temporalis*. Classified in the IUCN Red List as Least Concern (2014).

***Rhampholeon spectrum*** occurs in Cameroon, Equatorial Guinea (including Bioko), Gabon and Nigeria. It has been reported as common in montane areas of Cameroon and in parts of southern Nigeria but is believed to be rarer in the lowlands and degraded habitats; in southern Nigeria suitable habitat for the species is believed only to represent 5% of its original extent. According to US trade data, it is the most commonly traded *Rhampholeon* spp. with ca. 555 specimens per year imported into the USA between 2004 and 2013, mainly from Equatorial Guinea and Cameroon[6]. *Rh. spectrum* is apparently widely available for sale in Europe. Classified in the IUCN Red List as Least Concern (2010).

US trade data also shows import of an average of ca. 350 live specimens of *Rhampholeon* spp. per year between 2004 and 2013, the majority of which were from Tanzania[6].

Information on the remaining species is as follows:

***Rieppeleon brachyurus*** occurs widely in Tanzania, northern Mozambique and Malawi. The species is believed likely to be common although there are no population estimates. US trade data report a small number of imports (ca. 33 per year for 2004-2013) into the USA[6]. Classified in the IUCN Red List as Least Concern (2014).

***Rhampholeon acuminatus*** is currently only known from a single locality in the Nguru South Catchment Forest Reserve in Tanzania, where there is an estimated 28km$^2$ of suitable habitat remaining[3]. The population is likely to be small, due to its limited range. Around 70 specimens were imported in total into the USA between 2004 and 2013 with the majority of imports in 2013; two additional shipments totalling 107 individuals were refused in 2010 and 2013[6]. The species is considered desirable in the pet trade. It is

regularly found in offers for sale in Europe and the USA. The species is also believed to be particularly at risk from loss of habitat owing to its limited range. Classified in the IUCN Red List as Critically Endangered (2014).

***Rhampholeon nchisiensis*** is mainly confined to Malawi, with peripheral occurrence in Tanzania and Zambia[4]. Its overall range extends over some 12,600km$^2$; only 10% of this is suitable forest habitat[5]. There is no quantitative information on abundance. It is reportedly imported into the pet trade in limited quantities every few years, and can be found in offers for sale in Europe and the USA, although five live imports to the USA have been recorded between 2004 and 2013[6]. Classified in the IUCN Red List as Least Concern (2014).

***Rhampholeon temporalis*** is endemic to the Usambara Mountains of Tanzania where there is believed to be less than 300km$^2$ of suitable habitat remaining, some of which may be of low quality. In the East Usambara Mountains, average population density is reported to be just over 30 per ha$^-$ with lower densities towards forest edges. Not recorded in US import data, but the species can be found in offers for sale in Europe and the USA. Shipments of *Rh. temporalis* are apparently frequently mislabelled as other species of *Rhampholeon* and *Rieppeleo*n in the international trade. Classified in the IUCN Red List as Endangered (2014).

***Rhampholeon uluguruensis*** is endemic to the Uluguru Mountains of Tanzania, where it occurs in ca. 280km$^2$ of suitable habitat. No quantitative data on population abundance, but populations are assumed to be stable. Ca. 350 specimens were imported into the USA between 2004 and 2013, almost all in 2012 and 2013. The species can also be found in offers for sale in Europe. Classified in the IUCN Red List as Least Concern (2014).

***Rhampholeon viridis*** is endemic to the Pare Mountains in northern Tanzania, where there is an estimated 152km$^2$ of suitable habitat scattered over a much larger area. The population is believed to be decreasing due to severe loss of habitat. US trade data report that ca. 200 specimens were imported into the USA between 2004 and 2013, almost all in 2013[6]. The species can also be found in offers for sale in Europe. Classified in the IUCN Red List as Endangered (2014).

***Rhampholeon moyeri*** is endemic to the eastern Udzungwa Mountains, Tanzania. It is occasionally available in European market. Classified in the IUCN Red List as Least Concern (2014).

***Rhampholeon boulengeri*** is widespread in Burundi, Democratic Republic of Congo, Kenya, Rwanda, Tanzania and Uganda. 47 imported into the US from Burundi and Democratic Republic of the Congo between 2004 and 2013. Known to be offered for sale in Europe. Classified in the IUCN Red List as Least Concern (2014).

Of the remaining species most have limited and/or fragmented ranges: *Rh. bruessoworum (*IUCN Critically Endangered, 2014), *Rh. chapmanorum* (IUCN Critically Endangered, 2014) and *Rh. hattinghi* (Critically Endangered, 2015) have an area of occupancy ranging from ca. 1km$^2$ to 5km$^2$, while *Rh. beraducci* (IUCN Vulnerable, 2014*)*, *Rh. nebulauctor* (IUCN Vulnerable, 2014) and *Rh. tilburyi* (IUCN Critically Endangered, 2014)*,* are limited to areas of occupancy between ca. 12.5km$^2$ and 18km$^2$. *Rh. platyceps* (IUCN Endangered, 2014), occurs in forest fragments in Malawi totalling 61km$^2$, *Rh. maspictus* (IUCN Near Threatened, 2014) is limited to intact forest patch of 79km$^2$. *Rh. gorongosae* has an area of occupancy of around 100km$^2$ (IUCN Least Concern, 2014). *Rh. marshalli* (IUCN Vulnerable, 2014) inhabits a severely fragmented area of ca. 540km$^2$ which is subjected to ongoing forest transformation. None of these species are known to be in trade.

At least eight species of *Rhampholeon* and almost certainly all species of *Rieppeleon* occur in protected areas.

Available information indicates that national protection is limited. In Cameroon, capture of *Rhampholeon* spp. requires a permit although this rule is reportedly often disregarded. In Kenya, all chameleon species are protected. In May 2016, it was reported that Tanzania had banned the export of live reptiles until proper procedures to control trade were implemented[7].

One species in the genus *Bradypodion* (*B. spinosum*, endemic to Tanzania) which was included in Appendix II in 1977 is now widely regarded as a species of *Rhampholeon*, (*Rh. spinosus)* but is still recognised as *Bradypodion* under CITES taxonomy. Very little trade in this species is reported in the CITES

Trade Database: a total of 147 live specimens reported in trade between and 1993 and 2011, 93 of which were reported as born in captivity.

*Rhampholeon* and *Rieppeleon* spp. are reported to be subject to ongoing misidentification in trade, both between species within each genus and between genera, due to their similar morphological characteristics, particularly colouration and physical size. Shipments labelled "assorted pygmy chameleons" containing wild-caught *Rhampholeon* spp. have included the CITES-listed *B. spinosum* (*Rh. spinosus*).

**Analysis**: Of the three species in the proposal that are known to be in trade in any number, *Ri. kerstenii* and *Rh. spectrum* are both widespread species which are not known to be under threat. It is very likely that the populations of both are large. *Ri. kerstenii* is known to have been exported in some numbers from one (of four) range States, *Rh. spectrum* in considerably smaller numbers from two (of four) range States. It does not appear that either meets the criteria for inclusion in Appendix II in Annex 2 a of *Res. Conf. 9.24 (Rev. CoP16)*. The third species, *Ri. brevicaudatus* is widely distributed and reportedly locally abundant in Tanzania, also occurring marginally in Kenya, and is currently considered not under threat. It has been exported from Tanzania in some numbers, but it seems unlikely that harvest for export is reducing the population to a level at which its survival might be threatened, or at which it might become eligible for inclusion in Appendix I in the near future.

Of the remaining species eight (*Ri. brachyurus***,** *Rh. acuminatus, Rh. boulengeri, Rh. moyeri, Rh. nchisiensis, Rh. temporalis, Rh. uluguruensis* and *Rh. viridis*) have been recorded in trade, the exact level of which is unknown but is likely to be small. Only *Rh. acuminatus, Rh. temporalis* and *Rh. viridis* are currently considered threatened. There is insufficient information to determine whether either of these three meet the criteria in Annex 2 a of *Res. Conf. 9.24 (Rev. CoP16)*. It is unlikely that any of the others do.

Some of the remaining species are believed to have very restricted or fragmented ranges but are not known to be in trade.

Distinguishing between all species of *Rhampholeon* and *Rieppeleon* may be difficult and there are reports of mislabelling of species in trade. Shipments of unnamed *Rhampholeon* have reportedly included the Appendix-II listed *Bradypodion spinosum* and it might be argued on this basis that the other species meet the criteria for inclusion in Annex 2 b. However, it should be noted that with the exception of the geographically distant *Rh. spectrum* (which does not appear to meet the criteria in Annex 2 a of the Resolution), all reported trade in species in these genera (and in *B. spinosum*) originates from a single range State (Tanzania). It would appear that species with Tanzania as a range State would meet the criteria in Annex 2b A (lookalike) in that individuals resemble specimens of a species of *Bradypodion spinosum* so that enforcement officers who encounter specimens of CITES-listed species are unlikely to be able to distinguish between them. These include *Rh. acuminatus, Rh. beraduccii, Rh. boulengeri, Rh. moyeri, Rh nchisiensis, Rh. temporalis, Rh uluguruensis, Rh. viridis, Ri. Brahyurys, Ri brevicaudatus* and *Ri kerstenii.* Although other species may also resemble *B. spinosus,* it is unlikely that enforcement officers outside of Tanzania would need to distinguish specimens of them from *B. spinosum..* It is unclear whether any species elsewhere would meet these criteria.

**Reviewers:** C. Anderson, K. Tolley, P. Shirk and S. Chng.

**References:**

Information not referenced in the Summary section is from the Supporting Statement.

[1] Shirk, P. (2016) *In litt*. to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[2] Tilbury, C.R. (2010) *Chameleons of Africa: An Atlas, Including the Chameleons of Europe, the Middle East and Asia*. Edition Chimaira, Frankfurt.
[3] Jenkins, R., Measey, G.J., Anderson, C.V. & Tolley, K.A. (2013) Chameleon Conservation*. In:* Tolley, K.A. & Herrel, A. (Eds). *The Biology of Chameleons*. University of California Press, London. p: 193-217.
[4] Tolley, K. (2016*) In litt*. to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.
[5] Tolley, K. & Menegon, M. (2014) *Rhampholeon nchisiensis*. The IUCN Red List of Threatened Species 2014.
[6] Analysis of US Fish & Wildlife Service Law Enforcement Management Information System (LEMIS) data, May 2016
[7] Kilyinga, N. (2016) *Tanzania: Live Animal Exports Banned Pending Proper Procedures*. http://allafrica.com/stories/201605260680.html. Viewed on 22nd June 2016.