PROPOSAL FOR THE INCLUSION OF SPECIES ON THE APPENDICES OF THE CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

A. PROPOSAL: Inclusion of the African population of the straw-coloured fruit bat *Eidolon helvum* on Appendix II.

B. PROPONENT: The Government of the Democratic Republic of Congo[1].

C. SUPPORTING STATEMENT:

1. Taxon

1.1.	**Class:**	Mammalia
1.2.	**Order:**	Chiroptera
1.3.	**Family:**	Pteropodidae
1.4.	**Type/species/sub-species:**	*Eidolon helvum* Kerr, 1972
1.5.	**Common names:**	English: straw-coloured fruit bat French: roussette paillée africaine Spanish:

2. Biological data

2.1. Distribution

The African straw-coloured fruit bat or African palm tree fruit bat is present in Africa, Asia (the Arab Peninsula) (Gunther, 2003), in the south west of the Arab Peninsula (Donald *et al*, 2003) and in the Democratic Republic of Congo: in Kahuzi-Biega National Park (Michael *et al*,), which is subdivided into two zones linked by a narrow corridor with a mountainous, shade-loving forest on one side, extending for 600 km^2 between 1800 and 3300 m altitude and virgin forest on the other, located below, at between 600 and 1200 m; in Garamba National Park in the north east of the Democratic Republic of Congo between 3º40' and 4º40' latitude North and 29º to 30º longitude East, next to the Sudanese border, straddled by the Congo Nile ridge. It is made up of an undulating base-level plain with a gentle slope (average approximate altitude 785 m and a maximum altitude of 1061 m in the Congo water basin and its affluent, the Uele (Verschuren 1957); in Virunga National Park (Frechkop, 1938) in the East African Rift Zone on Mount Ruwenzori (where the highest peak "Marguerite Peak" reaches 5119 m) in the Democratic Republic of Congo and its bordering countries. Kingdon (1974 a, in Ronald *et al*, 1983) reveals that it is found on Ruwenzori up to an altitude of 2000 m. Verschuren (1957) also states that Lang and Chapin (1947) have observed bats between the equator and 4º latitude North in the equatorial forests of Akenge, Avakuli, Medje, Bafwabaka and Kisangani on one side, and Aba, Faradje, Niangara, Rungu, on the other. It is the most widespread of the African frugivore bats (Donald *et al*, 1983) and is found in most of the forest and savannah areas of Southern Africa from the Sahara to Madagascar (Cobet, 1978; Meester and Setzer, 1971, quoted by Ronald *et al* (1983). It leaves the ceilings of the caves from June to September, seemingly because social links are broken, while the colonies gather from September to October. This period coincides with the period when the egg implants itself in the uterus.

[1] Proposals for the inclusion of *E. helvum* on Appendix II were individually submitted by the governments of Kenya and the Democratic Republic of Congo. Having been contacted by the Secretariat, these governments have agreed to consider the proposal as having been submitted jointly. The original submissions were sent to the other Parties as separate documents.

2.2. Population

It is a gregarious species, preferring to perch itself on large trees during the day, but it has also been observed on the ceilings of caves and amongst the rocks. It lives in colonies and a colony has a feeding area of 30 km. In Nigeria, in particular, the species may sometimes be found from April to June in huge colonies of 100,000 to 1,000,000 individuals of both sexes. The reproductive cycle is adapted to the rainy season to ensure that the offspring are weaned when conditions are at their best and the births take place at the start of the rainy season (Happold and Appold, 1978 b cited by Ronald *et al*, 1983).

2.3. Habitat

It lives in the forest and savannah areas and perches on large trees during the day, in caves and in rocks. In Garamba National Park for example, there is a large bush and tree savannah interspersed with forest galleries as well as rocky outcrops.

2.4. Migration

The yellow fruit bat, *Eidolon helvum*, migrates regularly up to 900 km between the Ivory Coast and Niger. In temperate regions, a certain number of bats migrate in autumn and spring, moving down south when the bad weather begins and returning to the more northerly regions in spring. Thanks to ringing, their movements can be followed and recorded (Burton and Burton, 1974). Locally, they do not move from one place to another during the day. They come out at night in groups, searching for ripe fruit and feed off fruit juice (their favourite food), flowers and probably also the young roots of the *Ceiba* (Ronald *et al*, 1983).

3. Threat data

3.1. Direct threats to the population

In the Democratic Republic of the Congo, the threats have grown following the outbreak of armed conflict, which has led to a flood of refuges and those displaced by war in most of this species' habitats, with additional strong pressure being exerted by mining (Factor 3), forestry (Factor 1) and land (2). These disturbing phenomena are extremely harmful to the behaviour of the population to the point that the dynamics of the population is put at great risk. Entering caves in order to extract guano to be used as a fertiliser in the fields undoubtedly leads to changes in the microclimate and threatens the populations. The national parks of Virunga, Kahuzi-Biega, Maiko, Garamba and others, as well as several neighbouring zones, are also affected by these pressures of environmental degradation, in which the impact on the bats is undeniable.

In some regions, *Eidolon helvum* is hunted and eaten by man, but in others, it is traditionally protected (Happold and Happold, 1978 b), quoted by Arnold,). Likewise, in the Democratic Republic of Congo, the cultures that exist mean that there are some regions where bats are eaten (Factor 4), while in others this is not the case. Apparently, the general trend is towards eating larger species of bats. The above mentioned factors come into play and exert their influence randomly and everywhere, both in the migration reproduction and rest zones.

3.2. Destruction of the habitat

Once its habitat is destroyed, the species is threatened by farming, forestry and mining.

3.3. Indirect threats

The indirect threats to the species are mainly in relation to some competition with man over orchards (fruit tree plantations: palm trees, banana trees, mango trees), forest habitats or savannahs reserved by man as the main farming or hunting areas, etc. Furthermore, by way of example, *Eidolon helvum*, is considered to be a threat to pine plantations as bats chew bark, the timber and leaves, killing the trees. *Eidolon* can also destroy the nuts to such an extent that protective measures are required (Ronald *et al*, 1983). Any shortage of knowledge on the importance of bats to the ecological balance is also a threat that must be sought to be eliminated.

Furthermore, insufficient research, the lack of monitoring of the species and its habitat, the absence of a strategy and plan of action for preserving the species all constitute a danger for future populations.

3.4. Threats connected especially with migrations

During the migration, the predators, in particular birds of prey, carnivores and man are considered to be threats to the bats landing for vital needs during the migratory cycle. They are captured, devoured and disturbed. Their safety is not guaranteed as there is no specific law protecting them, nor any harmonised cooperation at sub-regional and regional level. They can encounter a large number of traps in areas where they seek refuge.

3.5. National and international use

Generally speaking, the consumption of bat meat varies across the country. It has other uses, in particular its wing membrane, used amongst certain tribes in the country for its acoustic qualities, as it offers excellent resonance in the manufacture and use of drums. Even though relatively limited, commercial use of this material presents a long-term risk. *Eidolon helvum* is apparently not exempt from this form of exploitation.

Its use on an international level is generally for scientific purposes, for example, in setting up educational collections for museums.

4. Protection status and needs

4.1. National protection status

Law 69-041 of 22 August 1969 regarding nature conservation in the Democratic Republic of the Congo protects all species of fauna and flora in protected areas (national parks and related reserves) throughout the country. This also includes all species of bats, present in great numbers.

4.2. International protection status

There are no known international protective measures specifically aimed at protecting the species.

4.3 Additional protection needs

It is important to understand the distribution of the species in the country (Democratic Republic of the Congo in particular) and to examine the current use of its population by man with a view to taking effective measures to ensure its survival. Recommendations include studying the migrations of the species, its role in biotic interactions, the dynamics of the populations and the man's impact in its various habitats (reproduction, feeding and rest zones).

5. Range states

In Asia, in the south west of the Arab Peninsula; in sub-Saharan Africa: THE DEMOCRATIC REPUBLIC OF THE CONGO, CÔTE D'IVOIRE and Madagascar. In the DEMOCRATIC REPUBLIC OF THE CONGO the species has been observed in the national parks of Kahuzi-Biega (South Kivu Province), Virunga (North Kivu Province) in Ruwenzori and Garamba (Eastern Province).

6. Comments from range states

The work that has been undertaken by the CMS Secretariat is already a major effort within the framework of the initiative to register the species in the Appendices in order to protect it. Nevertheless, taking into account the complexity of the problems, in particular, the shortage or rarity of bibliographical documentation in the countries themselves, one must examine the possibility of

organising as soon as possible study visits to all the major museums and international libraries, in order to allow the countries themselves to extract the necessary data.

7. Additional remarks

There are hardly any. Only a requirement for certain specialist works, more specifically, Guides, on various Groups of Animals included in the Convention (Mammals, Bats, Birds, Turtles, Fish, etc.).

8. References

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