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

Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Delete *Campephilus imperialis* from the CITES Appendices.

B. Proponent

Mexico*.

C. Supporting statement

1. Taxonomy

1.1	Class:		Aves
1.2	Order:		Piciformes
1.3	Family:		Picidae
1.4	Genus, species or subspecies, including author and year:		*Campephilus imperialis* (Gould, 1832)
1.5	Scientific synonyms:		*Picus imperialis* Gould 1832 (basonym).
1.6	Common names:	English:	Imperial Woodpecker. Mexican Ivory-billed Woodpecker (Tanner 1964)
		French:	Pic impérial
		Spanish:	Carpintero imperial, carpintero gigante, Pito imperial, Pitorreal ocotero, Pitorreal, *cumecócari* (tarahumara*;* Tanner 1964), *cuauhtotomomi* (náhuatl, Miller *et al.* 1957).
1.7	Code numbers:		not applicable.

2. Overview

The imperial woodpecker, *Campephilus imperialis* (Gould, 1832), was a species endemic to Mexico, now considered in the national legislation (NOM-059-SEMARNAT-2010) to be extinct in the wild.

It was listed in Appendix I in 1975 and since then its CITES status has not been reviewed. For that reason in 2011, the CITES Scientific Authority of Mexico (CONABIO) made an arrangement with Dr Adolfo Navarro and the biologist Alejandro Gordillo of the Zoological Museum of the Faculty of Sciences of the

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* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

UNAM (Universidad Nacional Autónoma de México), both specialists in ornithology, to carry out the study "Evaluation of the status of *Carcara lutosa* and *Campephilus imperialis* in the CITES Appendices", which would take the form of an exhaustive review of the sources of bibliographic information available. The conclusions of the study were as follows:

1. Surveys based on information provided by local inhabitants suggest that the point of extinction of the imperial woodpecker occurred between 1946 and 1965, with the last documented observation of the species being made by W. L. Rhein in 1956. Studies in 1995 revealed that in the forest where possibly the last pair was observed (unconfirmed report from 1993) the trees had been felled and there was no more evidence of the species. In addition, there is no record of live specimens in captivity. Lammertink *et al* 1996 and 2011 reports that there have been no documented records of the species in its area of distribution since 1956.

2. On the basis of a thorough study of the potential habitat of the species carried out in 1996 it was ascertained that only 0.61 % of it met the minimum conditions necessary for the reproduction and survival of the species (Lammertink *et al.* 1996). Consequently, even if any specimens were still to exist in the wild, the recovery of the species would be practically impossible.

3. The primary pressures that drove the species to extinction were fragmentation and loss of its habitat, and hunting, but there is no evidence that the hunting was related to international trade.

4. The UNEP-CMCM database (1975 to 2010) records only a single re-export from the United States of America to Mexico in 2006 of four museum specimens, sent for scientific purposes.

5. The species fulfils the definition of "Possibly extinct" given in Annex 5 of Resolution Conf. 9.24 (Rev. CoP15), since it disappeared more than 50 years ago.

For all of the above reasons, the Animals Committee at its 26th meeting (Geneva, April 2012), took the view that the precautionary measures in Annex 4 of that Resolution concerning transfer of species to Appendix II before its complete disappearance were not applicable in the present case, and endorsed the presentation by Mexico of a proposal for amendment to delist the species from the Appendices at CoP16 (Bangkok, 2013).

3. Species characteristics

3.1 Distribution

This species was endemic to the Sierra Madre Occidental and the western part of the Trans-Mexican Volcanic Belt at altitudes over 2000 m above sea level. It was distributed mainly in north-eastern Sonora, western Chihuahua, towards the south of the Sierra Madre Occidental as far as western Durango, and possibly in western and central Zacatecas, central Nayarit and Jalisco and northern Michoacán (Winkler *et al.* 1995, AOU 1998, Lammertink 2000, Winkler and Christie 2002, BirdLife International 2010).

The imperial woodpecker (*Campephilus imperialis*) was described as *Picus imperialis* by Gould (1832), who indicated that that he had collected it in the region of California (United States). However, it was later determined that the collection site had been in northern Mexico, which at that time was an area which had been very little explored (Prys-Jones 2011).

3.2 Habitat

This woodpecker lived in pine and mixed pine-oak (*Pinus-Quercus*) forests in subtropical regions (between 2200 and 3150 m above sea-level). It preferred large extents of forest on high plains having many mature or old trees, and large still-standing dead trees (del Hoyo *et al*. 2002), which provided space for feeding and nesting.

3.3 Biological characteristics

The nourishment of the imperial woodpecker was based primarily on insects, including the larvae of beetles (Cerambycidae), in search of which it dug deeply into the trees. On occasion, the same trees were the target of the woodpeckers for a long time (del Hoyo *et al.* 2002). Reproduction took place from February to June. They laid two to four eggs, after digging holes in the top parts of the trunks of

dead trees, close to other woodpecker pairs (Winkler *et al.* 1995, del Hoyo *et al.* 2002). Apparently, thick-billed parrots (*Rhynchopsitta pachyrhyncha*) competed with them for such nests.

3.4 Morphological characteristics

The species was the largest woodpecker in the world, with a body mass of 700 g (Short 1982) and an average length of 510 to 560 mm. It was entirely black in colour except for a part of the dorsal area which bore two white lines across the base of the wings. It manifested sexual dimorphism in that the males had a red crown which in females was black and curved upwards. Its bill was ivory-coloured, long and wide, slightly curved along the culmen or upper ridge (Winkler *et al.* 1995, Lammertink *et al.* 2000). The eyes displayed a yellow colouration, rather greyish in immature individuals.

3.5 Role of the species in its ecosystem

Like the majority of woodpeckers, the imperial woodpecker dug for larvae of beetles in the bark of trees, thereby acting to control pests. By using dead trees as nesting places, the species played an important role in the recycling of wood, making hollows in the wood which could also be used by other species of nesting birds (Short 1982).

4. Status and trends

4.1 Habitat trends

Since sawmills were set up and trees began to be used for pulping, mature pine and mixed pine and live oak forests, which formed the original habitat of the imperial woodpecker, have undergone drastic changes (BirdLife International 2010). The main threats to that type of forest are unsound forest exploitation, massive clear-cutting, grazing and fires (Flores Villela and Gerez 1994). It is estimated that the extraction of timber affected 99 % of the range of the species in the Sierra Madre Occidental (Lammertink *et al.* 1996). Even though pine-oak forests exist in many nature reserves within the range of the species (Challenger 1998), the state of conservation of these forests is variable, and they generally do not offer the necessary conditions associated with the large dead trees of at least 50 cm in diameter that the species used for nesting (Lammertink *et al.* 1996). Intensive efforts to locate habitat suitable for the species through image analysis, aerial sampling and field visits led to the conclusion that only 0.61 % of the initial forest habitat of the Sierra Madre Occidental contained old-forest stands of more than 1 km^2. By now, all Sierra Madre Occidental plateau forests have been altered (Lammertink *et al.* 1996).

4.2 Population size

No precise data are available on the size of the imperial woodpecker populations in its area of distribution. However, some authorities consider that the total population consisted of some 8,000 individuals (Lammertink *et al*. 1996, del Hoyo *et al*. 2002). According to reports of persons who had an opportunity to observe them, the density of imperial woodpeckers ranged between 3.4 and 6 individuals per 80 km^2 and one may therefore deduce that, although not common, the species was conspicuous (Nelson 1898, Lammertink *et al.* 2000). Taking into consideration the lesser population density figure recorded for the species (3.4 individuals / 80 km^2), it is estimated that the entire range contained 1,060 groups of 7-8 individuals (e.g. Nelson 1898).

Some data indicate that it congregated in pairs or in family groups of three to four individuals (Winkler *et al*. 1995), while other authorities consider that its social character caused it to form groups of five to 10, and on occasion up to 20, individuals (Nelson 1898, Lammertink *et al*. 1996, BirdLife International 2010).

The last confirmed observation of the species is a film made by W. L. Rhein in 1956 in the mountains of Durango, showing a solitary female searching for food, which suggests that the population had dwindled away to the extent that food-foraging groups were no longer formed (Lammertink 1996, 2011).

Between 1960 and 2000, exhaustive searches for the imperial woodpecker were undertaken in its original range. One of the main expeditions was carried out by James Tanner and his son David in 1962, and was sponsored by the American Museum of Natural History and the International Council for Bird Preservation (ICBP). The expedition covered the forests of southern Durango and northern

Jalisco but failed to sight any specimens (Lammertink *et al.* 2011). In 1994 and 1995, under the coordination of Martjan Lammertink and with funding from USAID, the World Wildlife Fund (WWF) and other international bodies, an intensive search was carried out using aerial photographs and topographic maps to identify potential habitat of the species (old forests) in the Sierra Madre Occidental as a basis for subsequent sampling (Lammertink *et al.* 1996). In this case interviews with local inhabitants suggested the presence of the species at some sites in Durango up to the early 1990s. However, such information was not corroborated and since then there has been no evidence of the existence of the species.

4.3 Population structure

There is no known published information on the population structure of the species.

4.4 Population trends

Surveys based on information provided by local inhabitants suggest that the point of extinction of the imperial woodpecker was between 1946 and 1965 (Lammertink 1996, 2011). There are occasional records of the species up to the early 1990s, but none of them was confirmed. Those records include a report of a pair searching for food in the region of Piélagos, Durango, in 1993, but an expedition to the site in 1995 showed that that forest had been cut down.

In 1995, the only reports of the species consisted of two sightings of solitary individuals, one in Durango and one in Sonora, at locations more than 730 km apart and lacking habitat areas sufficiently extensive to provide food and nesting sites. Lammertink and collaborators (1996) considered that the species was doomed to extinction.

4.5 Geographic trends

It is believed that, around the 1950s, the habitat occupied by the imperial woodpecker was reduced. The currently remaining vegetation which offers conditions more or less similar to those required by the species consists of small areas adding up to less than 1 % of the initial extent of the habitat. These areas are too small to sustain a viable population of the species (Lammertink *et al.* 1996, BirdLife International 2010).

5. Threats

Because of its large size, this woodpecker was hunted for sport, as a source of food and for medicinal purposes (Tanner 1964, BirdLife International 2010, Lammertink *et al.* 1996, 2011).

The causes of its disappearance were hunting and the destruction of its habitat (Lammertink *et al*. 2000, 2011). The particular habitat features which the species required made its survival very vulnerable to the tree-felling carried out for sawmills during the 1950s, which also provided hunters with greater access to the birds, exacerbating the decline in their population (BirdLife International 2010).

6. Utilization and trade

6.1 National utilization

The imperial woodpecker was used by local inhabitants as a source of food and medicine. The Tarahumara used its feathers to prevent fainting or relieve pain during childbirth (Tanner 1964, Plimpton 1977 in Lammertink *et al.* 2000).

Moreover, the head of the male was kept for years in order for feathers of the crown to be plucked, mixed with a little oil and used to alleviate earache (Lammertink *et al.* 2000). The bird's large bill was used as a tool to shell corn, as an amulet or as a hair clasp (Lammertink *et al.* 1996).

As a particularly attractive target, the species was sport hunting game (Lammertink *et al.* 1996, 2000, BirdLife International 2010).

6.2 Legal trade

During the period between the 1975 inclusion of the species in CITES Appendix I and 2010, the UNEP-WCMC trade database (CITES Trade Database, 2012) records only a single re-export of four specimens from the United States to Mexico in 2006 for scientific purposes. In addition there are approximately 160 stuffed specimens in the world (Lammertink *et al.* 2011).

6.3 Parts and derivatives in trade

There are no records of international trade beyond that described under Section 6.2.

6.4 Illegal trade

No data are available confirming illegal trade, although specimens may have been smuggled out of Mexico in the first half of the 20th century, when relevant legislation did not yet exist.

6.5 Actual or potential trade impacts

Since the species is extinct, there is no actual or potential negative effect of trade.

7. Legal instruments

7.1 National

The imperial woodpecker is categorized as extinct in NOM-059-SEMARNAT-2010 (DOF 2010).

8. Species management

8.1 Management measures

No specific management measures are taken for this species.

8.2 Population monitoring

There are no population monitoring measures.

8.3 Control measures

8.3.1 International

Apart from CITES, there are no other international control measures for the species.

8.3.2 Domestic

The species has been listed as extinct in the official Mexican regulation NOM-059 SEMARNAT-2010 since 2001 (DOF 2002, DOF 2010).

8.4 Captive breeding and artificial propagation

There are no data on captive breeding of the species anywhere in the world. Lammertink 1996 reports that local people caught some specimens to keep as pets.

8.5 Habitat conservation

The pine-oak forest of the Sierra Madre Occidental is found in the States of Durango, Chihuahua, Jalisco and Michoacán (Challenger 1998). These areas, however, are greatly affected by lumbering. Even though many reserves in the country include areas covered by that type of forest (Flores Villela and Gerez 1994), timber extraction has continued (Challenger 1998), and there are very few nature reserves in the remaining mature forests that could sustain the species (http://www.conanp.gob.mx/que_hacemos/pdf/mapa.pdf). On the other hand, significant areas have been proposed in the region for the conservation of birds (Arizmendi and Márquez 2000) but as yet these lack legal status.

8.6 Safeguards

In accordance with national legislation, paragraph 6.4 of NOM-059-SEMARNAT-2010 states that, in the event of rediscovery or reintroduction of any population of a species formerly considered as probably extinct in the wild, there would be an immediate change in its classification, with it then being listed as in danger of extinction. By that process, it would automatically become regulated and protected by national legislation (DOF 2010).

9. Information on similar species

Large woodpeckers of the genus *Campephilus* are the subject of evolutionary studies, as the three giant species (*C. principalis*, *C. "principalis" bairdii and C. imperialis),* distributed in Cuba, the eastern United States and Mexico respectively, form a monophyletic group (Fleischer *et al.* 2006) because they were not common and needed large tracts of suitable habitat for their survival (Dennis 1948). The Cuban variant has not been sighted since 1987 (Lammertink 1996) and there is ongoing discussion on whether any specimens of the south-eastern United States variant exist (Fitzpatrick *et al.* 2005, for instance).

10. Consultations

Given that the imperial woodpecker is a species that was endemic to Mexico, there were no consultations with other countries.

11. Additional remarks

None.

12. References

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