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

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Twenty-sixth meeting of the Animals Committee
Geneva (Switzerland), 15-20 March 2012 and Dublin (Ireland), 22-24 March 2012

Proposals to amend the Appendices

DRAFT PROPOSAL TO DELETE *CAMPEPHILUS IMPERIALIS* FROM THE APPENDICES

1. This cover note has been prepared by the Secretariat.

2. The Management Authority of Mexico is considering preparing a proposal to delete *Campephilus imperialis* from the Appendices, and is submitting the annexed information to the Animals Committee for comments.

3. In Resolution Conf. 11.1 (Rev. CoP15), Annex 2, the Conference of the Parties instructs the Animals Committee to:

   provide scientific advice and guidance to the Conference of the Parties, the other committees, working groups and the Secretariat on all matters relevant to international trade in animal and plant species included in the Appendices, which may include proposals to amend the Appendices.

4. Whilst the terms of reference of the Animals Committee do not request it to provide such advice and guidance to individual Parties, the Committee may wish to offer Mexico its views on this draft proposal to amend the Appendices.

REVIEW OF THE STATUS OF THE GUADELUPE CARACARA (*CARACARA LUTOSA*) AND THE IMPERIAL WOODPECKER (*CAMPEPHILUS IMPERIALIS*) IN THE APPENCICES

1. This document has been submitted by the CITES Scientific Authority of Mexico*.

BACKGROUND

2. At its 25th meeting (AC25, Geneva, 2011), the Animals Committee discussed working document AC25 Doc. 15.6 (*Selection of species for review following CoP15*), which presented the possibility of including the Guadalupe Caracara (*Caracara lutosa*) and the imperial woodpecker (*Campephilus imperialis*) in the periodic review. Although the second species had not been selected as a candidate for the periodic review, Mexico decided to review it as well, since both species are endemic to Mexico and listed as extinct in Mexico's list of endangered species NOM-059-SEMARNAT-2010, entitled “Environmental protection - Native species of wild fauna and flora of Mexico - Categories of risk and specifications for inclusion, exclusion and change - List of endangered species” (*Protección ambiental - Especies nativas de México de flora y fauna silvestres - Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio - Lista de species en riesgo*).

3. The CITES Scientific Authority of Mexico (CONABIO) contacted Dr Adolfo Navarro and the biologist Alejandro Gordillo of the Zoological Museum of the Faculty of Sciences of the UNAM (*Universidad Nacional Autónoma de México*), the latter being a specialist in ornithology, to carry out the study “Evaluation of the status of *Carcara lutosa* and *Campephilus imperialis* in the CITES Appendices”, the project being financed by CONABIO.

4. Based on an exhaustive review of the sources of bibliographic information available, any extant information on taxonomy, distribution, habitat, biology, morphology, scale, status and trends of population and habitat, threats, management, utilization and trade (legal and illegal), and conservation of the two species was compiled and summarized. On that basis, supporting statements were drawn up for each species based on the items of information listed in Annex 6 of Resolution Conf. 9.24 (Rev. CoP15).

OUTCOME

5. Surveys based on information provided by local inhabitants suggest that the extinction of the imperial woodpeckers occurred between 1946 and 1965. The last documented sighting of the species was in 1956 by W. L. Rhein (Lammertink *et al.* 1996, 2011). Although a pair may have been sighted in 1993 (unconfirmed record), studies carried out in 1995 revealed that the forest stand had been cut down and there was no more evidence of the species. In addition, there is no record of live specimens in captivity.

6. The pressures that led the species to extinction were loss and fragmentation of the habitat, and local hunting. There is no evidence that such hunting was related to international trade.

7. Since the species was included in the CITES Appendices in 1975, the only movement recorded in the trade database of the UNEP World Conservation Monitoring Centre (UNEP-WCMC) is a re-export of four specimens from the United States to Mexico in 2006 for scientific purposes. Since, according to Lammertink *et al.* 1996 and 2011, there has been no documented record of the species in its range since 1956, it is highly likely that the re-export comprised museum specimens.

8. A thorough study of the potential habitat of the species carried out in 1996 revealed that only 0.61 % of it met of the minimum conditions necessary for the reproduction and survival of the species (Lammertink *et al.* 1996). Consequently, should some specimen still exist in the wild, recovery of the species would be practically impossible.

9. The species is listed as extinct in the Mexico's list of endangered species NOM059-SENMARNAT-2010.

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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.*

10. The species fulfils the definition of "Possibly extinct" in Annex 5 of Resolution Conf. 9.24 (Rev. CoP15).

11. As the two species are extinct in the wild, it was impossible to evaluate them against the criteria for amendment of CITES Appendices I and II (Annexes 1 and 2 of Resolution Conf. 9.24, Rev. CoP15).

CONCLUDIONS AND RECOMMENDATIONS

12. Even though, under the precautionary measures of Annex 4 of the above Resolution, "no species listed in Appendix I shall be removed from the Appendices unless it has been first transferred to Appendix II, with monitoring of any impact of trade on the species for at least two intervals between meetings of the Conference of the Parties" and "species that are regarded as possibly extinct should not be deleted from Appendix I if they may be affected by trade in the event of their rediscovery; these species should be annotated in the Appendices as 'possibly extinct'", we suggest that the Committee consider the relevance of deleting *Campephilus imperialis*, given that the species has been reported extinct for over 50 years.

13. The Animals Committee is invited to take note of the outcome of this review and to propose the deletion of *Campephilus imperialis* from the Appendices at the next meeting of the Conference of the Parties (CoP16, 2013).

EVALUATION OF THE STATUS OF *CAMPEPHILUS IMPERIALIS* IN THE CITES APPENDICES

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 (basionym).

1.6 Common names

Spanish: Carpintero imperial, Carpintero gigante, Pito imperial, Pitorreal ocotero, Pitorreal, *cumecócari* (tarahumara; Tanner 1964), *cuauhtotomomi* (náhuatl, Miller *et al.* 1957).

French: Pic impérial

English: imperial woodpecker, Mexican ivory-billed woodpecker (Tanner 1964)

1.7 Code number: Not applicable because there is no identification sheet for the species in the CITES Identification Manual.

2. Overview

The imperial woodpecker (*Campephilus imperialis*) was described by Gould (1832) as *Picus imperialis,* considering that it was the largest woodpecker in the world. He reported collecting specimens in the district of California, United States, but it was subsequently confirmed that the place of collection was in fact located in northern Mexico, an area scarcely explored at the time (Prys-Jones 2011).

Despite intensive expeditions and searches carried out by ornithologists and local inhabitants, there have been no reliable reports of the species for over 50 years. The last documented sighting of the species was by W. L. Rhein in 1956 (BirdLife International, 2010, Lammertink 1996, 2011) and it is suggested that the extinction of imperial woodpeckers occurred between 1946 and 1965. The main threats that led to the extinction of the species include, in particular, destruction of its habitat and hunting (BirdLife International, 2010). A thorough study of the potential habitat of the species conducted in 1996 revealed that only 0.61 % of it met the minimum conditions necessary for the reproduction and survival of the species (Lammertink *et al.* 1996).

Mexico's list of endangered species NOM-059-SEMARNAT-2010, entitled “Environmental protection - Native species of wild fauna and flora of Mexico - Categories of risk and specifications for inclusion, exclusion and change - List of endangered species”, lists the imperial woodpecker as "Extinct" in its original range (DOF 2010). Moreover, the species is categorized on the IUCN Red List as Critically Endangered (CR), Possibly Extinct, having a population size of fewer than 50 individuals (BirdLife International, 2010).

The imperial woodpecker (*C. imperialis*) has been included in CITES Appendix I since 1975. International trade in the species has been virtually nil, given that the only movement recorded between 1975 and 2010 consisted in a re-export of four specimens from the United States to Mexico for scientific purposes in 2006 (UNEP-WCMC, CITES Trade Database, 2012).

3. Species characteristics

3.1 Distribution

This species was endemic to the Sierra Madre Occidental and the western part of the Transverse Transvolcanic Belt at altitudes over 2,000 metres above sea level. It was distributed mainly in north-eastern Sonora, western Chihuahua, towards the south of the Sierra Madre Occidental up to 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 2002, BirdLife International 2010).

3.2 Habitat

This woodpecker lived in subtropical pine and pine-oak (*Quercus-Pinus*) forests (between 2,200 and 3,150 metres above sea level), preferably in large stands, on high plains with an abundance of mature or old trees (not felled by mechanical means; Lammertink *et al.* 1996) and tall dead standing trees (of Hole *et al.* 2002) which provided feeding and nesting areas. These particular habitat characteristics made the species highly susceptible to any alteration to the conditions necessary for its survival.

3.3 Biological characteristics

The imperial woodpecker fed mainly on insects, such as the larvae of beetles (Cerambycidae). The individuals lived in pairs or formed family groups of three or four (Winkler *et al.* 1995). They dug deep into trees and, in some case, the same trees kept being visited over long periods of time (del Hoyo *et al.* 2002). During the reproduction period, which extended from February to June, females laid two to four eggs in holes made in the upper part of dead tree trunks, near other pairs of woodpeckers (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. Its colour was entirely black save for a part of the dorsal area which bore two white lines across the base of the wings. It manifested sexual dimorphism insofar as the males had a red and the females a black and upward-curved crown. 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 coloration, rather greyish in immature individuals.

3.5 Role of the species in its ecosystem

Like most woodpeckers, the imperial woodpecker foraged in bark for beetle larvae and used dead trees for nesting. It thus fulfilled an important role in the decomposition of wood, in providing nesting holes to other bird species and in helping control pests (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

In spite of the lack precise data, some consider that the total population of the imperial woodpecker was of the order of 8,000 individuals (Lammertink *et al.* 1996, del Hoyo *et al.* 2002). Certain researchers hold that, given its social nature, the bird formed groups ranging from 5 to 10 and, occasionally, 20 individuals (Nelson 1898, Lammertink *et al.* 1996, IUCN 2011). 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 numbered 1,060 groups of 7-8 individuals (e.g. Nelson 1898).

One of the latest pieces of evidence documenting the existence of the species is footage shot in the mountains of Durango in 1956 that shows a solitary female engaged in foraging. The event suggests that the population had been reduced to a point precluding the formation of a small group. The film was shot by W. L. Rhein, constitutes the last confirmed sighting of the species (Lammertink 1996, 2011).

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 extinction of the imperial woodpecker occurred between 1946 and 1965 (Lammertink 1996, 2011). Subsequently, sightings of the species were occasionally recorded until the early 1990s, but none has been confirmed. These occurrences include the reported sighting in 1993 of a pair foraging in the area of Piélagos, Durango (a location with a habitat of suitable quality). In 1995, a field survey revealed that the forest stand in question had been cut down and, as a result, there was no longer any evidence of the species.

Around 1995, the only reports concerning 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. In 1996, Lammertink and his collaborators 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 habitat range. These areas are too small to sustain a viable population of the species (Lammertink *et al.* 1997, BirdLife International 2010).

5. Threats

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

Sawmill timber extraction during the 1950s provided hunters with better access to the species, thereby intensifying the decline of its population (BirdLife International 2010).

Accordingly, the probable causes of the disappearance of the imperial woodpecker were hunting, use of and trade in specimens of the species, as well as destruction of its habitat (Lammertink *et al.* 2000, 2011).

6. Utilization and trade

6.1 National utilization

The imperial woodpecker was used by local inhabitants as a source for food and medicine. The Tarahumara used its feathers to prevent fainting or relieve pain during labour (Tanner 1964, Plimpton1977, in Lammertink *et al.* 2000).

Moreover, the head of the male was kept for years for the feathers of the crown, which were plucked, mixed with a little oil and used to alleviate ear pain (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, IUCN 2011).

6.2 Legal trade

For the period since the species was included in the CITES Appendices in 1975, the only movement recorded in the UNEP-WCMC trade database (CITES trade database, 2012; inquiry period: 1975-2010) is a re-export of four specimens from the United States to Mexico in 2006 for scientific purposes. 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 other than that referred to in paragraph 6.2. However, trade in skins, stuffed birds, heads and feathers may have occurred.

6.4 Illegal trade

No data are available to corroborate such activity, 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

Given the status of the imperial woodpecker as extinct according to NOM-059-SEMARNAT-2010, there is little probability that trade may have an impact on wild populations of the species.

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

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 of Bird Preservation (ICBP). The expedition covered the forests of southern Durango and northern Jalisco but failed to sight any specimens (Lammertink *et al.* 2011). Between 1994 and 1995, intensive search, coordinated by Martjan Lammertink and funded by USAID, the World Wildlife Fund (WWF) and other international bodies, 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, contact with the species was limited to indirect evidence, including information obtained through interviews with local inhabitants and suggesting the presence of the species at some sites in Durango through the early 1990s. However, such information was not corroborated and no evidence of the existence of the species has been available since.

8.3 Control measures

8.3.1 International

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

8.3.2 National

The species has been listed as extinct in the Official Mexican Standard NOM-059 since 2001 (DOF 2010).

8.4 Captive breeding and artificial propagation

No data are available on reproduction of the species in captivity anywhere in the world, although reference has been made to the occasional capture of an individual by local inhabitants for keeping it as a pet (Lammertink 1996).

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 (Flowers Villela and Gerez 1994), timber extraction has continued (Challenger 1998). Few are nature reserves in the areas of remaining mature forests that could sustain the species[1]. On the other hand, areas of importance for the conservation of birds have been proposed in the region (Arizmendi and Márquez 2000) but 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, eastern United States and Mexico, form a monophyletic group (Fleischer *et al.* 2006) and are considered extinct (or at least on the verge of extinction) 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 individual of the south-eastern United States variant still exists (Fitzpatrick *et al.* 2005, for instance).

10. Consultations

Since the imperial woodpecker is a species endemic to Mexico only, there were no consultations with the authorities of any other country.

11. Complementary observations

In summary, all available information shows that the imperial woodpecker is extinct. Since 1956, there has been no reliable record of the existence of specimens of the species in the wild despite frequent intensive zoological expeditions and specific searches in the region. Moreover, the state of conservation of the mature forests of the plains does not offer the necessary minimal conditions required for the survival of the species. Mexico maintains the species on its list of endangered species as extinct (DOF 2010).

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[1] *See http://www.conanp.gob.mx/que_hacemos/pdf/mapa.pdf.*

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