Transfer of the Ornate Spiny-tailed Lizard *Uromastyx ornata* from Appendix II to Appendix I

Proponent: Israel

Summary: The Ornate Spiny-tailed Lizard *Uromastyx ornata* is one of 17 currently recognized species of spiny-tailed or dabb lizards in *Uromastyx*, a genus of agamas found in arid and semi-arid regions from north-west India to north Africa. Until 2004, it was regarded as a subspecies of *U. ocellata,* but is now recognized in CITES taxonomy as a full species. It occurs in Egypt (Sinai Peninsula), Israel, Saudi Arabia and Yemen and may have a disjunct distribution, with one population occurring in the Sinai Peninsula, Israel and adjacent north-west Saudi Arabia and the other some distance to the south in mountainous parts of south-west Saudi Arabia and north-west Yemen. Its distribution in Sinai and Israel is limited, the latter covering an estimated 270 km^2. However, locality data indicate that the southern part of its range extends over several thousand square kilometres.

Uromastyx ornata is a medium-sized and brightly coloured dabb lizard. It is diurnal and primarily herbivorous. Breeding is reportedly seasonal with the eggs produced in May and the young hatching some 60 days later. Reported clutch size in northern populations is seven to 17 eggs; in the southern population four to nine. Individuals are reported to live for approximately 15–20 years in captivity.

There are no overall population estimates available for *Uromastyx ornata*. The only quantitative data in the literature relate to Israel, where estimates of population density are around 15 individuals per km². It has been reported to occur in relatively dense populations in southern Saudi Arabia. *U. ornata* is not currently included in *The IUCN Red List of Threatened Species*, although a preliminary Red List assessment has been conducted, which suggests the species is "moderately abundant in suitable habitat*".*

Uromastyx species are harvested for food, use in traditional medicines and for the international pet trade. Other potential threats to the genus may include habitat loss and deterioration as a result of infrastructure and tourist developments, tourist activities and over-grazing, and the impacts of climate change. The significance of these threats is unknown, but it has been suggested that the habitat of this species is not subject to intensive human use, being generally inhospitable.

The entire genus *Uromastyx* has been included in Appendix II since 1977. Determining historical patterns of trade in *U. ornata* is difficult, because prior to 2004 it was not regarded as a full species and as a result there appears to be some taxonomic confusion in the CITES trade database. Egypt banned the export of *U. ornata* and other reptiles in 1992 and has recorded no significant exports since 1995. Prior to this, Egypt was the primary exporter of wild-taken specimens of *Uromastyx* declared as *U. ornata*. In recent years, the only range State for which there are records of exports of *U. ornata* is Yemen, from which just under 900 specimens were declared as imported to the USA, in 1997 and 1999. Since 2003, there has been a significant increase in the number specimens of *U. ornata* reported in trade as captive-bred. Despite this, *U. ornata* is still relatively difficult to obtain and does not appear to be commonly found in trade. It has been alleged that many specimens advertized as captive-bred may in fact be wild-collected.

Analysis: *Uromastyx ornata* is in trade and there is international demand for the species which could affect wild populations.

Information on the status of the species in the wild is relatively limited. However, locality data indicate that its distribution extends over several thousand square kilometres and is neither highly fragmented nor known to be declining in extent. There are no estimates for global population. However, density estimates from Israel of 15 individuals per square kilometre, with a total range of 270 km² in the country, suggest that Israel's population could number approximately 4000 individuals. The range in Israel comprises only a small proportion of the overall range and, if the species occurs at similar densities elsewhere, then its overall population is likely to be substantial. The population in Israel is regarded as stable at present and there is no evidence of marked

decline in the population elsewhere, nor compelling reasons to suspect such a decline. It seems unlikely, therefore, that the species meets the biological criteria for inclusion in Appendix I.

Supporting Statement (SS)	Additional information
	Taxonomy
Uromastyx ornata Two subspecies have been identified: *U. ornata ornata* and *U. ornata philbyi.*	*Prior to 2004, CITES taxonomy considered* Uromastyx ornata *to be a subspecies of* U. ocellata. *Following adoption in 2004 of Wilms (2001) as the standard reference for the genus,* U. ornata *has been treated as a full species.* Uromastyx philbyi *is listed as a synonym of* U. ornata *in the CITES species database.*
	Range
Egypt, Israel, Saudi Arabia and Yemen.	
	IUCN Global Category
	Not assessed

Biological criteria for inclusion in Appendix I

A) Small wild population

(i) Population or habitat decline; (ii) small sub-populations; (iii) concentrated geographically during one or more life-history phases; (iv) large population fluctuations; (v) high vulnerability

The overall population size of *Uromastyx ornata* is presently unknown. However, estimates of the southern Israeli population are thought to be no more than a few hundred compared to the few thousand specimens estimated in the year 2000. Surveys of *U. ornata* in southern Israel have led to estimates of 15 individuals per km² or 30 per one-kilometre length of wadi. A further survey in Mt. Timna in 1998 found no sightings of *U. ornata* in areas where it had previously been seen, suggesting a decline in numbers. Populations in the Eliat Mountains are also suspected to have declined over the past few years.	*No overall population estimates could be found in the current literature.* *Nemtzov (2008) believes the overall population in Israel to be seemingly small ("a few hundred"), but apparently stable.* *On the basis of there being 15 individuals per km² and Nemtzov's (2008) estimation of* U. Ornata's *range in Israel (270 km²), the population in Israel could number around 4000. However*, U. ornata *are said to select their habitats carefully and are unlikely to be evenly distributed throughout their range (Wilms, 2009).* *Baha el Din (2001) regarded this species as "uncommon but widespread in suitable habitat" within Egypt. The IUCN Preliminary Global Assessment (2004) noted that* U. ornata *was "moderately abundant in suitable habitat" throughout its range.*
According to the SS, population surveys in the Eastern Sinai Peninsula (Egypt) have	*162 individuals were translocated from the Sinai Peninsula to the Eilat Mountains to*

Supporting Statement (SS)	Additional information
found a reduction in population size in the past 20–30 years. However, no quantifiable data has been provided. These declines are thought to be a result of illegal over-collection, over-grazing and habitat loss, the result of tourist developments and quarrying.	*boost population numbers, 1980–1981. It was later discovered that the population in the Eilat Mountains was not as depleted as previously thought (Nemtzov, 2008).*
Uromastyx ornata is believed to have low fecundity (the female lays seven to 17 eggs per clutch), reach sexual maturity relatively late (at approximately four-and-a-half years of age) and, although juvenile survival rates have not been recorded in the wild, they are presumed to be low.	*Clutches are produced four to six weeks after mating and clutch size is reportedly seven to 17 eggs for* Uromastyx ornata ornata *and four to nine eggs for* U. ornata philbyi *(Wilms, 2001). According to Wilms (2009), Grenot (1976) estimated that* U. acanthinura *juveniles have a mortality rate of approximately 80% in their first one to two years; Wilms (2009) suggests mortality may be similar in* U. ornata*.*
B) Restricted area of distribution	
(i) Fragmented or localized population; (ii) large fluctuations in distribution or sub-populations; (iii) high vulnerability; (iv) decrease in distribution, population, area or quality of habitat, or recruitment	
In Israel, this species only occurs in steep, rocky, hot wadis where *Acacia* trees and *Ochradenus baccatus* bushes are present. The proponent noted that the distribution of *Uromastyx ornata* had reduced over time and that wild populations were fragmented and separated by mountain ranges and water bodies. The supporting statement suggests that illegal trade has resulted in fragmented and declining populations.	*Locality data in Wilms (2001) show records of occurrence in the south of Saudi Arabia, where* Uromastyx ornata *is relatively densely populated (Wilms, 2009). The southern range extends into Yemen along a total of around 1000 km of mountain range. Distribution in the north (including Sinai, Israel and north-west Saudi Arabia) appears somewhat more restricted.* *According to Nemtzov (2008)* Uromastyx ornata *occurs throughout approximately 270 km^2 of Israel.*
C) Decline in number of wild individuals	
(i) Ongoing or historic decline; (ii) inferred or projected decline owing to decreasing area or quality of habitat, levels of exploitation, high vulnerability, or decreasing recruitment	
The preliminary global assessment conducted by IUCN (2004), states that *Uromastyx ornata* are “moderately abundant in suitable habitat, but populations appear to significantly fluctuate. The species is declining from heavily disturbed and accessible areas of their range” (IUCN, 2004). Threats to *U. Ornata* listed in the assessment include: over-collection for the international pet trade, habitat loss owing to touristic activities, cutting of acacia, quarrying and military developments. The proponent states that the population status of *Uromaxtyx ornata* in the wild is unknown and undocumented, but that in southern Israel there are probably no more than a few hundred individuals left, as opposed to a few thousand that were believed to be present in 2000.	*IUCN’s global Red List assessment has not yet been finalized.* *No information was located on overall population trends in the wild, although Nemtzov (2008) indicates that the population in Israel is probably stable at present.*
The proponent states that environmental factors, such as climate change and over-grazing by domestic livestock are reducing the quality of *Uromastyx ornata* habitat	*According to Nemtzov (2008), since* Uromastyx ornata *primarily occurs in desert-like environments, which are largely unsuitable for human use, the impact of humans on*

Supporting Statement (SS)	Additional information
and contributing to population declines. Southern Israel has been experiencing severe droughts for the past nine years, causing a reduction in available vegetation and therefore an inferred reduction in quality of habitat.	*their habitat is likely to be less severe than for other species. However, according to Wilms (2009), Gallager and Hill (2006) suggested that over 44% of the Arabian Peninsula was heavily over-grazed. This is likely to have a detrimental impact on* U. ornata *and other primarily herbivorous species (Wilms, 2009; Wagner, 2009).*

Trade

The proponent states that *Uromastyx ornata* is in very high demand in the pet trade, especially in North America, Western Europe and Japan, as it is colourful and attractive.

Uromastyx ornata *is regarded as an attractive and desirable pet and a brief Internet search revealed that the species appeared to be in trade, though not on a large scale. A study by Reijngoud (2009) found* U. ornata *for sale at a reptile fair and on the Internet, both inside and outside the European Union (EU); in both instances specimens were advertized as being captive-bred. Wilms (2009) has also observed* U. ornata *for sale at reptile fairs in Germany advertized as captive-bred, but believes most specimens in trade are wild-caught.*

Wilms (2009) was informed by wildlife biologists that Uromastyx ornata *was illegally collected by traders from Egypt in Saudi Arabia. Wagner (2009) states that although specimens may be advertized as captive-bred, they are often wild-caught.*

There are inconsistencies in the trade data, for example many wild-caught *U. ornata* are reported as being exported from countries that are not range States. Also, the data show that farmed and captive-bred specimens have been imported from countries not reporting any matching exports or having records of importing them to establish captive breeding facilities. The source of many traded specimens is therefore unclear which can, in part, be attributed to taxonomic misidentification.

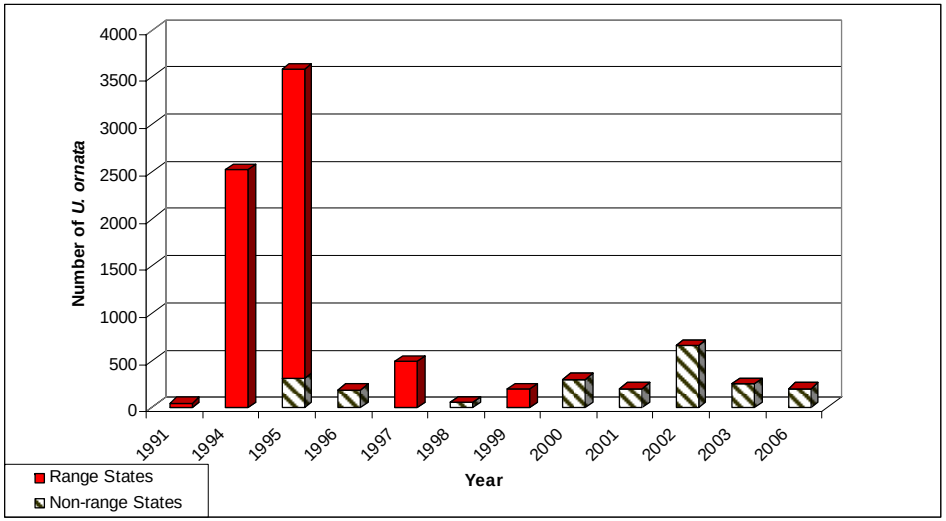
The proponent states that "the death rate for *U. ornata* is apparently as high as 80% during the first two months of captivity".

The CITES trade database indicates that the number of wild-taken specimens in trade has significantly declined since 1995 (see Figure 1), with Yemen being the only range State to have exported live wild-caught specimens since then (see Figure 1). Prior to this, Egypt was reportedly the largest exporter of Uromastyx ornata *(93%, excluding re-exports) with almost all of these being (potentially) sourced from the wild. However, it is important to note that* U. ornata *was previously considered a subspecies of* U. ocellata *and that Egypt is a range State for both species. They can be distinguished through their morphological characteristics owing to their distinct coloration and patterns (Baha el Din, 2001).*

It is likely that the decline in trade from Egypt was a result of the Egyptian ban on the export of Uromastyx ornata*,* U. ocellata*,* U. acanthinura *and* U. aegyptius *and other reptiles, put in place in 1992 and more recently effectively enforced. According to reported imports, since 1995 there have been only two illegal export consignments of* U. ornata *from Egypt, one of which was a re-export from Sudan, which is not a range State. However, these exports were reported prior to* U. ornata *being considered a separate species in 2004 and, as* U. ornata *and* U. ocellata *both occur in Egypt, it is possible that there was taxonomic confusion.*

Figure 1: Number of live, wild* Uromastyx ornata *reported as imports from range States and non-range States, excluding re-exports (CITES trade database, 2009)

Supporting Statement (SS)	Additional information



As suggested in the supporting statement, there are some discrepancies in the CITES trade database. Wild specimens have been reported as being exported from countries which are non-range States, even after U. ornata *was recognized as a separate species from* U. ocellata *in 2004, e.g. 200 in 2006 (shown in Figure 1). Approximately 25% of all* U. ornata *reported in trade by the importing country has been exported from* U. ocellata *range States, suggesting the data may be misleading in part as a result of taxonomic confusion.*

In addition, considerable trade in captive-bred specimens has been reported from the Ukraine, although it was not until 2000 that Ukraine started to report the import of wild specimens of Uromastyx ornata *(460 wild specimens were imported 2000–2001). The wild* U. ornata *imported to Ukraine were supposedly imported from Sudan; this is a range State of* U. ocellata *but not* U. ornata*. Ukraine was also reported exporting captive-bred and F1 generation specimens during this time (2000–2001). It is important to note that while Ukraine only became a Party to CITES in 2000, no other exports of wild-taken* U. ornata *or* U.ocellata *to Ukraine were reported in the CITES trade database.*

IUCN's preliminary global Red List assessment of Uromastyx ornata *(2004) states that it is occasionally available in the pet trade in North America. Knapp (2004) reported that levels of illegal trade for* Uromastyx *were relatively low and fluctuated over time. However, this may reflect deficiencies in data rather than true levels of illegal trade. Nemtzov (2008) noted "No illegal collection in Israel has been recorded'.*

Supporting Statement (SS)	Additional information
Uromastyx are used for traditional medicines and their skin and meat are sold in some North African and Near Eastern countries. However it is not known if *U. ornata* is used in this way.	*Jenkins and Broad (1994) found that the only significant recorded trade in* Uromastyx *skins within 10 years was 40 000 skins imported into Spain from Benin in 1986.This is thought to have been a misdeclaration. The only trade in skins recorded in the CITES trade database is of one* U. hardwickii *skin exported from Pakistan to the USA in 1986, suggesting there is not a strong international demand for* Uromastyx *skins.* *The supporting statement suggests that* Uromastyx ornata *may be used for meat by North African or Near Eastern Countries, but the CITES trade data show only 500 specimens imported to this region (specifically to Jordan) since 1999.* *It could not be clearly established whether* U. ornata *was traded internationally for medicinal purposes, although legal trade seems to be primarily of live animals (only 39 bodies reported in the CITES trade database).* Uromastyx *species are used for medicinal purposes in Malaysia, to increase potency in men, and possibly in India, but the species used cannot be confirmed (Shepherd, 2009; Zain, 2009).*

Other information

Threats

The supporting statement suggests the following present threats to *Uromastyx ornata*:

- Legal and potentially illegal collection of specimens for the pet trade, as the primary threat to the species.

- Demand for skin and meat, much of which is sold in North African and Near Eastern countries. High levels of trade for consumption of *Uromastyx aegyptia* in Saudi Arabia have been reported. However, *U. ornata* is not exploited locally for bushmeat in Israel or Saudi Arabia, but could be in Yemen and Egypt. The proponent admits that “it is unclear if *U. ornata* is utilised in this way”.

- Possible use in traditional medicines.

- Use of all-terrain vehicles by tourists which causes habitat damage through creating tread marks and damaging flora.

- Habitat loss and reduction in habitat quality as a result of quarrying, military developments, cutting of acacia and over-grazing of domestic livestock.

- Climate change and drought.

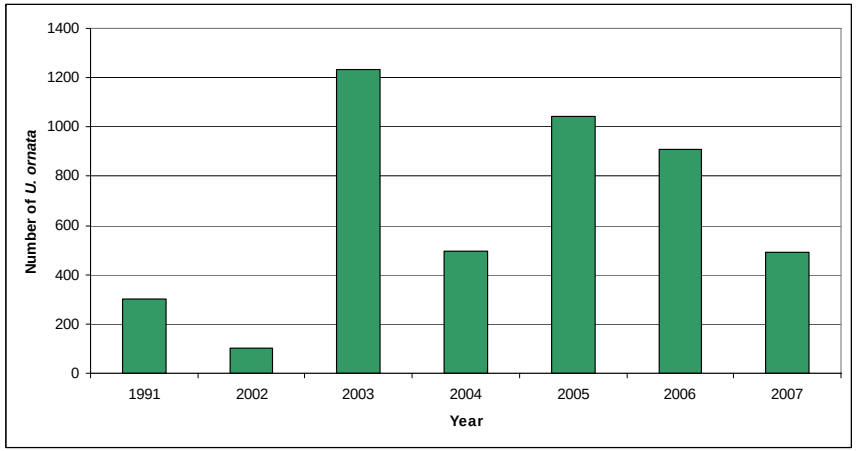
No information has been found to suggest this species is heavily used for meat, although Uromastyx *(of unknown species) are thought to be eaten as a delicacy in the Arabian peninsula (Zain, 2009). Lizards are used as a source of protein in some cultures, but usually the larger species, such as* Iguana *and* Ctenosaura*, are favoured (Klemens and Thorbjarnarson, 1995).* U ornata *is much smaller than* U. aegyptia *(Nemtzov, 2008), which is known to be eaten in Saudi Arabia.*

The use of all-terrain vehicles by tourists is said to be a localized threat in Israel and, although likely to increase over time, it is not thought to be a severe threat owing to the protected status of most of the U. ornata *habitat in Israel (Nemtzov, 2008). Wagner (2009) suggests that sporting activities in other range States also threaten the habitats of* Uromastyx.

According to Nemtzov (2008), in many areas, habitat loss does not pose a severe threat to Uromastyx *species as much of their habitat is unsuitable for human use (e.g. agriculture and real estate), although others argue that over-grazing by livestock such as camels poses a significant threat to* Uromastyx *species (Wilms, 2009; Wagner, 2009).*

Supporting Statement (SS)	Additional information
Conservation, management and legislation	
All *Uromastyx* species have been listed in CITES Appendix II since 1977 and are listed on Annex B of the EU wildlife trade regulations. *Uromastyx ornata* is legally protected in Israel by the *Wildlife Protection Law* of 1995 and by the *National Parks, Nature Reserves and National Monuments Law* of 1998. *U. ornata's* habitat in Israel lies within one protected area. *Uromastyx ornata* is fully protected by law in Egypt and the species occurs in five Egyptian nature reserves. Its status in Yemen and Saudi Arabia is unknown.	Uromastyx ornata *is listed as endangered in the* Red Book of Vertebrates in Israel *and is fully protected in Israel. It cannot be "disturbed, harmed, captured, held, bred in captivity moved, nor bought or sold, nor offered for sale" (Nemtzov, 2008).* *Egypt initiated an export ban in 1991 for several reptile species, specifying four* Uromastyx *species, including* U. ornata*. This came into force in 1992 (*Notification to the Parties No. 662 *of 16 January 1992) although Egypt continued to report exports until 1995. Since then, just 248 specimens have been recorded as confiscated or seized specimens exported from Egypt, 165 of which were re-exports according to the CITES trade database (2009).*
Similar species	
Prior to 2004, *Uromastyx ornata* was regarded as a subspecies of *U. ocellata* and traded under that name. *Uromastyx ornata* can be distinguished from *U. ocellata* by the presence of enlarged scales on the anterior border of the ear opening. *U. ornata* also has yellow dorsal spots compared to the very pale cream or white dorsal spots found on *U. ocellata*.	*It appears that there has been significant confusion in reporting of trade in* Uromastyx ornata, *demonstrated by the discrepancies found in the CITES trade database.* *According to Baha el Din (2001), "The very different nuptial colouration of male* U. ornata *and* U. ocellata *strongly supports the specific status of both taxa".*
Captive breeding/artificial propagation	
According to wildlife trade records, there has been commercial captive breeding of *Uromastyx ornata* in the USA, Ukraine, Jordan and Turkey in recent years.	*Until recently, captive breeding of* Uromastyx ornata *was very unusual. However, in recent years knowledge and success of captive care and breeding has increased significantly (Wilms, 2001). This appears to be reflected in the CITES trade database, which shows a significant increase in the number of captive-bred specimens since 2003 now being traded (see Figure 2), and by Internet searches, which also suggest a number of captive-bred specimens are available for sale.* ***Figure 2: Number of captive-bred* Uromastyx ornata *reported as imports, excluding re-exports (CITES trade database, 2009)***

Supporting Statement (SS)	Additional information



Other comments

Trade in Uromastyx *species has been assessed in recent years under the Review of Significant Trade. At the 20th meeting of the CITES Animals Committee, held in 2004,* U. ocellata *was chosen amongst other species for more detailed review. At that time, the taxon included* U. ornata*. By the time the review was carried out in 2006,* U. ornata *had been removed from synonymy with* U. ocellata *under CITES taxonomy. It was therefore not considered in the review process. At the 22nd meeting of the Animals Committeee, trade in* U. ocellata *from Djibouti, Egypt, Eritrea, Ethiopia, Somalia and Sudan was considered of Least Concern.*

Reviewers:
TRAFFIC Europe, P. Wagner, T. Wilms.

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