CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

To transfer *Pyxis planicauda* (Grandidier, 1867) from Appendix II to Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

In accordance with Article II, paragraph 1, of the Convention, and Resolution Conf. 9.24, Annex 1, sections A. i), ii) and v); B. i), iii) and iv); and C. i).

B. Proponent

Madagascar.

C. Supporting statement

The flat-tailed spider tortoise (*P. planicauda)* is a species endemic to western Madagascar, but it can be found in various habitats. The population of this species has recently suffered severe damage on account of excessive harvesting. For this reason, a recommendation was made following a recent workshop on the Conservation Assessment and Management Plan (CAMP) organized by the IUCN to change the classification of the flat-tailed spider tortoise from Endangered (EN) to Critically Endangered (CR) in the IUCN Red List and a recommendation was also made to change the CITES classification from Appendix II to Appendix I.

According to Behler (2000c) of the IUCN Tortoise and Freshwater Turtle Specialist Group, Madagascar's tortoises are under unprecedented pressure on account of the severe degradation of their habitat and harvesting for the international pet trade. Some authors have gone as far as to compare the situation of the Malagasy chelonians to that of the tortoises and freshwater turtles in Asia.

Massive exports of this *Pyxis* species have raised the concern of scientists and the importing countries because of fears of very serious overexploitation and even extinction at the local level (Animals Committee 2000, IUCN/CBSG CAMP 2001, US FWS 2001). Renowned herpetologists, including the IUCN Madagascar Reptile and Amphibian Specialist Group and the IUCN Tortoise and Freshwater Turtle Specialist Group, have asked for this *Pyxis* species to be included in Appendix I of CITES in order to protect it from extinction (for example, Hudson, 2000; Behler, 2000a).

1. Taxonomy

1.1	Class:	Reptilia
1.2	Order:	Testudines (Chelonia)
1.3	Family:	Testudinidae
1.4	Species:	*Pyxis planicauda* (Grandidier 1867)
1.5	Scientific synonyms:	*Testudo planicauda* (Grandidier 1867) *Testudo morondavaensis* (Vuillemin 1972) *Acinixys planicauda* (Seibenrock 1903)

1.6 Common names:

French:	Pyxide à queue plate, tortue à queue plate, pyxide à dos plat
English:	(Malagasy/Madagascar) flat-tailed (spider) tortoise, (Malagasy/Madagascar) flat-backed tortoise, Madagascar flat-shelled (spider) tortoise
Spanish:	Tortuga de cola plana, tortuga plana
German:	Madagaskar Flachrückenschildkröte, Madagaskar Flachpanzerlandchildkröte
Italian:	Acinisside
Malagasy:	Kapidolo
Dutch:	Madagascar platrugschildpad

1.7 Code numbers:

2. Biological parameters

The species has a flattened dorso-ventral tail from which it derives its common name. *P. planicauda* is a small tortoise whose carapace can attain a length of 13.4 cm. The males weigh approximately 300 to 400 g and the females 475 to 670 g (Bloxam and Hayes, 1991). Sexual dimorphism is visible after the age of 10 or 12 (Vetter, 2001b). *Pyxis planicauda*'s carapace is oblong and slightly flattened on the back. The scales around the perimeter are dark and have a yellow band. The plastron is yellow and has dark spots or rays and does not have a hinge or an anal slit. The colour of its legs ranges from yellow to brown and each leg has five toes. Large yellow scales cover its hind legs (Vetter, 2001b; Rogner, 1996). Its head, which is of average size, ranges in colour from dark brown to black and features yellow marks of various shapes. The female's tail is thinner and shorter than the male's (Rogner 1996).

The species has a particularly low reproductive rate, a factor which prevents its recovery form overexploitation. The animal reaches maturity around the age of 12 to 14 and lays only 1 to 3 eggs per year (CAMP, 2001; Glaw and Vences, 1994). The incubation period is approximately 9 months (Vetter 2001b). The animals live for at least 20 years (Tidd *et al.*, 2001). The species has a season of activity and becomes sluggish during the dry season from April/May to November/December.

2.1 Distribution

Country of origin: Endemic to Madagascar

Madagascar's flat-tailed spider tortoise is confined to fragments of dry, caducifoliated forests in the lowlands on the central section of the west coast in the region of Menabe, in Toliara Province.

According to the documentation, Mouroundava (= Morondava) in Toliara Province is the typical environment for *Pyxis planicauda* (Vetter, 2001b). The Menabe region is bordered by the Mangoky River to the south, by the Tsiribihina River to the north, by the Bemaraha Mountains to the east and by the Mozambique Canal to the west (Rakotombololona, 1998). The species can be found from the Morondava River in the south to Tsiribihina in the north and there is a small isolated population to the north of Tsiribihina (Behler *et al.*, 1993). This isolated population was probably introduced (E. Louis, *personal communication*).

Between the Morondava River and the Tomitsy River to the north, the presence of *Pyxis planicauda* is limited to the fragments of dry, caducifoliated forests of Andranomena and Amborompotsy, to the area between the Tomitsy and the Tsiribihina in the Kirindy Forest (which is adjacent to the Amborompotsy Forest), and to the Sahafotsy Forest (Bloxam *et al.*, 1996; Rakotombololona, 1998; Tidd *et al.*, 2001). During a recent CAMP workshop, the extent of occurrence was estimated to be less than 5,000 km² and the area of actual occupancy by the species to be even less than 500 km² (CAMP, 2001). According to the reports by Tidd *et al.* (2001), the extent of occurrence is at the most 2,000 km². Additional reviews (Pinder, *personal communication*) indicate that the area of occupancy was only 570 km² in 2000.

2.2 Habitat availability

The species relies on dense caducifoliated forests for its food and aestivation period (Tidd *et al.*, 2001). The habitat of the *Pyxis planicauda* has been fragmented because of agricultural development and deforestation caused by firewood collection and commercial exploitation (Durrell *et al.*, 1989a) and it is disappearing rapidly (Tidd *et al*,. 2001). According to Tidd *et al.* (2001), the decline in habitat between 1960 and 1993 has been estimated at 32 per cent and it has been projected that it will continue and reach 51 to 80 per cent by 2006 (IUCN/CBSG CAMP 2001). Between 1963 and 1993, the area of dense virgin forest between Tsiribihina and Tomitsy was reduced from 1,620 to 1,330 km², the area between Tomitsy and Morondava from 540 to 360 km², and that from Morondava to Maharivo from 930 to 410 km². According to reports, the deforestation rates are only increasing: in the southern part of the range of the species, 50 per cent of the remaining 760 km² could disappear before 2010. In the northern part, a reduction of 50 per cent of the 730 km² of habitat could occur before 2040 (Tidd *et al.,* 2001). According to Tidd *et al.* (2001), only isolated portions of the species' original habitat will remain after 2001 if urgent measures are not taken to conserve the forest regions.

2.3 Population status

Pyxis planicauda was classified as Endangered (EN) in the 2000 IUCN Red List, on the basis of criteria A.1.(c) and (d), B.1. and 2. (b), (c) and (d) (IUCN Red List 2000). This means that there was a population reduction of at least 50 per cent over the last three generations, as shown by the decline in the area of occupancy, the extent of occurrence, and/or the quality of the habitat, and by the actual or potential levels of exploitation.

Recently, the IUCN Madagascar Reptile and Amphibian Specialist Group (Hudson, 2000) and the participants of a CAMP workshop organized in Madagascar by the CBSG (CAMP, 2001) suggested classifying the species with the Critically Endangered (CR) animals. This proposition is based on an estimated, inferred, or suspected minimum reduction of 80 per cent in the population over the next three generations, on account of the potential exploitation levels, a decline in the area of occupancy, a decline in the extent of occurrence and/or a decline in the quality of the habitat. According to the IUCN Madagascar Reptile and Amphibian Specialist Group, *Pyxis planicauda* is recognized as one of the most endangered tortoise species in the world (Hudson, 2000; Behler 2000c). According to Raxworthy and Nussbaum (2000), the species is vulnerable to extinction.

Although the total size of the *Pyxis planicauda* population is unknown, it has been estimated that there are fewer than 10,000 individuals in the wild (IUCN/CBSG CAMP 2001). The species is found in small sparsely populated groups (Hudson 2000). Provisional estimates of the number and density of the population of the species have been made in small forest tracts, but the estimates may be completely erroneous, and contain large variations (Animals Committee, 2002). The studies seem to suggest that a sparse *Pyxis planicauda* population is found in the Kirindy Forest, and consequently, the number of individuals is low (Bloxam *et al.,* 1996). The density in the region's main forest block has been estimated at 0.5 tortoises/hectare, i.e. 50 individuals/km². Durbin and Ramanampisoa (2000) found higher population densities with 2 to 6 tortoises per hectare, i.e. 200 to 600 individuals per km² in the fragmented and degraded areas. The density on the site where the best harvesting took place was 1 tortoise/hectare (i.e. 100/km²) in February 2001, after two seasons of intensive harvesting. The results of observations made in 2002 confirm this finding as the number of individuals located was very low or almost non-existent in some locations. However, according to the local populations, the density was far higher before harvesting began (Rakotombololona quoted in Animals Committee 2002).

The IUCN/SSC Tortoise and Freshwater Turtle Specialist Group notes that *Pyxis planicauda* is one of the most endangered tortoise species in the world (Hudson, 2000; Behler, 2000c).

2.4 Population trends

During a CAMP workshop organized in Madagascar by the CBSG, it was proposed to classify the species as Critically Endangered (CR A.3. (a), (c) and (d) on the IUCN Red List, based on an estimated, inferred, or suspected population reduction of over 80 per cent over the next three generations on account of actual or potential exploitation levels and a decline in the area of occupancy, a decline in the extent of occurrence, and/or a decline in the quality of the habitat (IUCN/CBSG CAMP 2001). The size of the population is declining on account of forest fires and deforestation (Tidd *et al.,* 2001) and harvesting for trade. (CAMP, 2001; Behler, 2000b). The CAMP results (IUCN/CBSG CAMP, 2001) make it possible to predict an 80 per cent reduction in the population over the next three generations. By means of the Population and Habitat Viability Assessment results (PHVA), it is possible to situate the moment of extinction at less than 30 years from now (Behler, 2002). As harvesting impacts primarily the female breeding animals, the capacity of the population to recover is seriously compromised, given its low reproductive rate.

Research projects carried out by the Durrell Wildlife Conservation Trust (Toto Volahy *et al.,* 2002, *in prep.*) monitored the species in several sites including two where harvesting occurred. They found a marked decline in the two harvest sites. In one site (Sahafotsy), there was a 50-70 per cent decline per year between 1997 and 2000. In the other site (Mangily), it is probable that the species no longer exists. In Mangily, the villagers noticed that before harvesting began, it was possible to find up to 10 individuals in the course of a day. In 2002, no individuals were found, despite intensive searches in two tracts.

2.5 Geographic trends

Following the field studies in 2002 (Toto Volahy *et al.,* 2000, *in prep.*), it became apparent that excessive harvesting had resulted in the total elimination of the species from some forest fragments and that other fragmented populations might now be functionally extinct (IUCN/CBSG CAMP, 2001). The recent unbridled harvesting had visibly eradicated the tortoise populations from the south-west corner of their range (Toto Volahy *et al.,* 2002, *in preparation*) (Animals Committee, 2002). Recent information indicates that harvesting had spread to Masoarivo in the northernmost part of the range by the end of 2001 (Animals Committee, 2002).

2.6 Role of the species in its ecosystem

Pyxis planicauda feeds primarily on fruits and foliage from trees and shrubs (Tidd *et al.,* 2001). Consequently, the species may have an impact on the composition of the plant community and the structure of the vegetation in its habitat. However, little information is available on its ecological role.

2.7 Threats

Recently, from 1998-2001, *Pyxis planicauda* was harvested on a large scale for the international pet trade. Before 1995, the species was almost unknown in international trade. According to experts, international demand is very high (Behler, 2000a). Harvesting for food purposes is not a relevant factor (Vetter, 2001b).

In addition, the species' habitat has been substantially reduced through deforestation, agricultural development, and road construction for oil development (Tidd *et al.,* 2001). On the whole, it is not believed that natural predators could endanger the species' survival. However, the growing number of predators that have been introduced (for example, cats and dogs) could increase mortality during egg-laying and at hatching, and even in adults. The land clearing rate totalled 32 per cent between 1969 and 1993; it was 3 per cent annually between 1993 and 2000 (Tidd *et al.*, Pinder *personal communication*).

Floods caused by cyclones are part of the natural threats to which the species is subject (Animals Committee, 2002).

3. Utilization and trade

Specimens are usually harvested in the context of international trade for sale to private collectors and zoos. It is believed that the focus of the trade is currently on adults captured in the wild.

3.1 Domestic use

At the local level, specimens are occasionally offered as pets to tourists (Animals Committee, 2002). In 1999 and in 2000, permits were granted to at least seven commercial undertakings to capture 200 *Pyxis planicauda*; 100 of them were intended for captive breeding and 100 for export (Reeve for IFAW, *in prep.*).

3.2 Legal international trade

Trade in the species has involved a large number of specimens, beginning at the end of 1999. On the basis of permits filed in the office of the Madagascar Management Authority, 1,091 specimens were exported in the years 2000 and 2001 (see above).

Exports of *Pyxis planicauda* from Madagascar, 2000-2001*
(based on Reeve for IFAW, *in prep.*)

Importing country	Exports from Madagascar in 2000	Exports from Madagascar in 2001
Guinea-Bissau		4
Hungary	2	
Japan	612	230
South Africa	200**	
Switzerland	13**	90
United States	540**	
Yugoslavia		10
Unknown		200
Total	**1,367**	**534**

* Source of data – export permits filed with the Madagascar Management Authority.

** Data on imports for South Africa, Switzerland, and the United States of America indicate that imports are higher than what is shown here. Moreover, the Czech Republic imported animals from Madagascar, but they are not in this chart; therefore total exports from Madagascar are probably higher than what is indicated here.

The high import levels reported by the Malagasy authorities and some importing countries for 2000 and 2001 are not reflected in the UNEP/WCMC data because most of the figures for 2000 and 2001 have not yet been submitted to UNEP/WCMC. The figures compiled by UNEP/WCMC are summarized in the Annex.

In June 2000, Madagascar voluntarily established an export quota of 25 individuals (CITES, 2000a) which was increased to 800 individuals in August 2000 (CITES 2001). In March 2001, the export quota was scaled back to zero. The volume of sales reported in 2000 and 2001 far exceeded the official export quotas. According to indications on permits filed at the office of the Madagascar

Management Authority, 1,367 and 534 specimens were exported in 2000 and in 2001 respectively (Reeve for IFAW, in preparation).

In addition to the figures on exports supplied by Madagascar, data on imports are available from UNEP/WCMC and directly from a small number of parties.

United States of America: According to the United States Fish and Wildlife Service (*personal communication* to Pro Wildlife, 2002), the United States imported 1,025 wild *Pyxis planicauda* directly from Madagascar in the year 2000 alone. Detailed information on imports for 2001 is not yet available, but a cargo of 65 individuals was seized in 2001. The United States did not import any *P. planicauda* using the export permits Madagascar issued in 2001. Therefore, the total number of imports (originating from Madagascar) is higher than the official export numbers.

According to Behler (2000a), one specimen of *Pyxis planicauda* was selling for USD 1,200 in the United States in 1999. On account of massive imports, prices fell to between USD 600 and USD 675 in April 2000 and the prices seen on the Internet were even lower in April 2002, between USD 400 and USD 500 (Pro Wildlife, unpublished).

South Africa: According to the permits filed with the office of the Madagascar Management Authority, 200 specimens were exported, but based on the UNEP/WCMC data for 2002, there were 300. According to Reeve for IFAW (*in prep.*), in 2000 and 2001, at least 272 tortoises transited through South Africa.

Europe: According to unofficial reports, hundreds of *Pyxis planicauda* had arrived in Europe during previous years, particularly in the Czech Republic (Animals Committee, 2002). Swiss and Czech merchants sell a specimen of *Pyxis planicauda* for between USD 645 and USD 700 (Animals Committee, 2002). Switzerland: The permits filed at the office of the Madagascar Management Authority record 13 *Pyxis planicauda* exported to Switzerland in 2000, but the UNEP/WCMC data for 2002 indicate a figure of 63 specimens. On the basis of Malagasy export permits for 2001, Switzerland imported 90 *P. planicauda* (Reeve for IFAW, in preparation). But after the CITES Secretariat informed the Parties that Madagascar had set a zero quota for 2001, Switzerland banned imports of *Pyxis planicauda* (Althaus *in litt.* to Pro Wildlife 2002). Germany: Germany reported that it had imported two live wild tortoises from Hong Kong SAR and three from the United States of America for breeding purposes (UNEP/WCMC, 2002). United Kingdom: The United Kingdom imported eight live *Pyxis planicauda* in 1993 and four bodies for scientific purposes in 1998 (UNEP/WCMC 2002). Czech Republic: 100 specimens were imported by the Czech Republic from Madagascar in February 2001 using export permits from December 2000 (Animals Committee, 2002).

Asia: According to UNEP/WCMC data, Japan imported 60 flat-tailed spider tortoises captured in the wild from Madagascar in 1998, 23 from the United States of America in 2000, and 20 from South Africa in 2000. However, according to Malagasy export records, 612 specimens were exported directly to Japan in 2000 (Reeve for IFAW, *in prep.*). In addition, 230 were exported to Japan in 2001 (Reeve for IFAW, *in prep.*). Reports indicate that prices ranged from USD 377 to USD 1,760 per specimen (Animals Committee 2002). According to UNEP/WCMC data, Hong Kong SAR imported two specimens in 1999 and Indonesia imported four specimens in 1998.

3.3 Illegal trade

The Madagascar CITES Management Authority confirmed that illegal harvesting and trade in *Pyxis planicauda* may well exist (Animals Committee, 2002). Unofficial reports corroborate this. However, most animals harvested are sold to merchants who are already established in the sales network. In 2000 and 2001, 12 and 190 specimens were shipped by South Africa, but their export permits cannot be found in the Malagasy records (Reeve for IFAW, *in prep.*).

According to these reports, the tortoises are smuggled in dug-out canoes to foreign fishing boats (Reeve for IFAW, *in prep.*). Moreover, 'captive-bred' specimens are advertized, but it is doubtful that such claims are true, given that the infrastructure for reproduction in captivity is recent, that the reproductive rate is very low, and that the mortality rate in captivity is very high. The species has also been sold in Chinese marketplaces for food, with 40 individuals having been discovered during an investigation in 2000-2001 (Ades, 2002).

3.4 Actual or potential trade impacts

It is evident that massive harvesting for international trade constitutes a serious threat to the species' survival. According to Behler (2000b), the collectors are "literally in the process of wiping out the wild stocks". In December 2001, there were at least four merchants in Madagascar who had *P. planicauda* and were waiting to export them (Reeve for IFAW, *in prep.*).

Participants in a recent CAMP workshop consider that the species has very little chance of surviving the harvesting of adults, even on a very low scale (CAMP 2001). Taking into account the low reproductive rate of the species, the harvesting of female adults, in particular, could have serious repercussions on the wild population.

Research performed by Durrell Wildlife over the last five years indicates a major decline in the species in the areas to the south of the Tomitsy River. There are still some forests in this zone, but the animal has almost entirely disappeared. This decline has been linked to harvesting for commercial purposes since the mid-nineties. This zone is one of the most accessible ones for people and the closest to Morondava (the main town in the region), and was therefore the first zone where harvesting occurred. Taking the village of Mangily as an example, surveys of the villagers reveal that most of the villagers had participated in harvesting. The collector would arrive and negotiate a price per animal (for example, in 2001, FMG 5,000 = USD 1). And then he would let the villagers look for the animals. After a few weeks, he would return to the village and buy all of the tortoises that had been harvested (Toto Volahy *et al.*, *in prep.*).

3.5 Captive breeding for commercial purposes (outside the country of origin)

The species has proved difficult to raise and breed in captivity. Even in specialized centres, attempts have met with little success and the survival rate in captivity is very low (Bloxam, 2000). For now, on account of the very low fertility rate of the species, there is no possibility of finding animals which are in international trade and are derived from breeding efforts that fit CITES's strict definition of the term. This raises the question of the feasibility of implementing effective and sustainable captive-breeding operations (Animals Committee, 2002). Over the past 12 years, only two *Pyxis planicauda* were bred in captivity and both of them are in the Jersey Zoo in the United Kingdom. The first was born in August 1995 and the second in June 2001 (Bloxam, 2000; Animals Committee, 2002). The species can be found more often in zoos following the recent increase in trade. According to the International Species Information System (ISIS, 2000), in 2000 there were only 21 specimens (nine males, 11 females, one of indeterminate sex) in zoos throughout the world, but this number had increased to 77 by April 2002 (33 males, 43 females, one of indeterminate sex) (ISIS, 2002).

Even in the country of origin with organizations specialized in breeding tortoises, few young tortoises have been bred and raised in captivity up until now. The DWCT (Durrell Wildlife Conservation Trust) initiated captive breeding of the species in the country for conservation purposes at the end of the eighties. From 1995 to 1999, the project produced 19 *Pyxis planicauda*. However, there were only 7 survivors (37 per cent) at the end of 2000 (Razandrimamilafiniarivo *et al.,* 2000).

4. Conservation and management

4.1 Legal status

4.1.1 National

Harvesting from the wild is legal and is monitored through a system of permits.

The species is classified as being a game species according to Decree No. 88-243 of 15 June 1988, based on the London Convention of 8 November 1933 and on Order No. 60-126 of 3 October 1960. Game can be hunted during the hunting season (1 May to the first Sunday of October) (Nicoll and Langrand 1989).

4.1.2 International

Pyxis planicauda has been listed in Appendix II of CITES since 1975. In the European Union, the species is listed in Annex A of Council Regulation 338/97, banning the import of animals captured from the wild for commercial purposes. Switzerland banned imports of *Pyxis planicauda* in 2001.

4.2 Species management

4.2.1 Population monitoring

The action plan of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group emphasized as early as 1991 the urgent necessity of a complete study on the status of *Pyxis planicauda* and on its population (IUCN/SSC TFTSG, 1991). A Population and Habitat Viability Assessment (PHVA) was recommended for this species; however, inadequate knowledge prevented it from being conducted (IUCN/CBSG CAMP, 2001).

4.2.2 Habitat conservation

According to Tidd *et al.* (2001), only a few forest zones are protected and the regulations are rarely enforced. One can mention the special Andranomena Forest Reserve (7,810 ha) and the private Analabe Reserve (14,876 ha), but most of the Analabe Reserve is comprised of degraded zones or includes plantations and is crossed by roads built for oil exploration.

12,500 ha of forest conceded to the *Centre de Formation et de Perfectionnement Forestiers* – CFPF [Centre for Training and Advanced Studies in Forestry] have been managed for biological research and eco-tourism since commercial logging was halted. But over the last years, illegal logging has taken place (Hawkins, 2001).

According to Kuchling's reports, no habitat is really protected (Animals Committee, 2002).

In 2001, a platform for Biodiversity Conservation in Menabe was set up to develop conservation measures essential for the Menabe Forests.

4.2.3 Management measures

According to the indications of a recent CAMP workshop, no conservation plan exists at the regional or national level (CAMP, 2001). The Malagasy Government has signed a memorandum of understanding with the Durrell Wildlife Conservation Trust (DWCT) for the conservation of endangered species (Anonymous 1994). This agreement allows the DWCT to conduct research into the distribution and the status of *Pyxis planicauda*. However, the Madagascar CITES Authorities have not sought the advice of the DWCT on the impact of

harvesting activities or how to determine an appropriate level of harvesting and trade (Animals Committee, 2002).

The Madagascar Management Authority has submitted an (undated) species management plan to the CITES Secretariat. The management measures contain proposals for research on harvesting locations, collectors, and harvesting times, in order to determine export quotas and monitoring techniques.

4.3 Control measures

4.3.1 International trade

Madagascar voluntarily established a quota of 25 specimens in 2000 (CITES, 2000a), but this quota was raised to 800 specimens for 2000 and 2001 (CITES, 2000b). The scientific reasons for this quota are unknown. Later the quota for 2001 was scaled back to zero (CITES, 2001). However, the quotas were exceeded (see Section 3.2). The quota for 2002 is zero (CITES, 2002). The European Union has banned imports of the species for commercial purposes (see Section 4.1.2 for details). Switzerland has banned imports of *Pyxis planicauda* since 2001.

4.3.2 Domestic measures

No data.

5. Information on similar species

Non-specialists are unable to distinguish *Pyxis planicauda* from other tortoises that have the same patterns on their carapace, such as *Pyxis arachnoides*, *Psammobates* spp., *Geochelone elegans* and *Geochelone platynota* (Testudo, 2000).

6. Other comments

According to Reeve (*in prep.*), the participants in a CAMP workshop organized recently in Madagascar by the IUCN's CBSG recommended that *Pyxis planicauda* be transferred from Appendix II to Appendix I. Tortoise specialists who have worked in Madagascar have reached the conclusion that the *Pyxis* genus should be included in Appendix I of CITES (Behler, 2000a; Bloxam 2000). According to Rick Hudson, a member of the IUCN Madagascar Reptile and Amphibian Specialist Group, it is urgent to transfer the *Pyxis planicauda* from CITES Appendix II to Appendix I (Hudson, 2000).

7. Additional remarks

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8. References

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Table 1: International trade in *Pyxis planicauda* based on CITES annual reports
Compiled by UNEP/WCMC, up to 2000

					Declared imports				Declared exports			
Year	**Taxon**	**Imp.**	**Exp.**	**Origin**	**Quantity**	**Term**	**P***	**S***	**Quantity**	**Term**	**P***	**S***
1990	*Pyxis planicauda*	GB	MG						6	live	S	
1993	*Pyxis planicauda*	US	GB	MG	8	live	T	W	8	live		
1993	*Pyxis planicauda*	GB	MG		8	live						
1995	*Pyxis planicauda*	GB	MG						4	bodies	S	W
1995	*Pyxis planicauda*	US	MG		5	live		W	5	live	S	W
1996	*Pyxis planicauda*	US	MG						2	live	S	W
1996	*Pyxis planicauda*	US	MG		2	specimens		O				
1997	*Pyxis planicauda*	GB	MG						3	live	S	W
1998	*Pyxis planicauda*	GB	GB	MG	2	bodies	S	F				
1998	*Pyxis planicauda*	GB	GB	MG	2	bodies	S	W				
1998	*Pyxis planicauda*	US	JP	MG	5	live	T	W	6	live	T	W
1998	*Pyxis planicauda*	GB	MG						2	bodies	S	W
1998	*Pyxis planicauda*	ID	MG		4	live	T	W	4	live	B	W
1998	*Pyxis planicauda*	JP	MG		60	live	T	W	60	live	T	W
1999	*Pyxis planicauda*	HK	ID	MG	2	live	T	W				
1999	*Pyxis planicauda*	US	ID		1	live	T	W	4	live	T	W
1999	*Pyxis planicauda*	US	ID	MG					6	live	T	W
1999	*Pyxis planicauda*	US	MG		20	live	T	W				
2000	*Pyxis planicauda*	DE	HK	MG	2	live	B	W				
2000	*Pyxis planicauda*	CH	MG		63	live	T	W				
2000	*Pyxis planicauda*	US	MG		356	live	T	W				
2000	*Pyxis planicauda*	ZA	MG		300	live	T	W				
2000	*Pyxis planicauda*	DE	US	MG	3	live	B	W	3	live	T	W
2000	*Pyxis planicauda*	HK	US	MG					4	live	T	W
2000	*Pyxis planicauda*	JP	US	MG					23	live	T	W
2000	*Pyxis planicauda*	JP	ZA	MG					20	live	T	W
2000	*Pyxis planicauda*	US	ZA	MG	50	live	T	W	90	live	T	W

P = *purpose* (reason for export); *S* = *source* (origin of specimen)

Table 2: Codes for Table 1

Source code	Description (Eng.)	Description (fr.)
A	Art. Prop.	Propagation artificielle
C	Captive Bred	Elevé en captivité
D	Farmed (App. I)	Elevé en ferme (Annexe I)
F	F1 captive born	Né en captivité, F1 génération
I	Illegal	Illégale
O	Pre-Convention	Pré-Convention
R	Ranch raised	Elevé en ranch
U	Unknown	Inconnu
W	Wild	Sauvage

Purpose code	Description	Description
B	Breeding	Elevage
E	Education	Education
G	Botanic Garden	Jardin botanique
H	Hunting trophy	Trophée de chasse
L	Enforcement	Mettre en vigueur
M	Medical	Médicale
N	Re/introduction	Re-introduction
P	Personal	Personnel
Q	Circus	Cirque
S	Scientific	Scientifique
T	Commercial	Commerciale
U	Transit	Transit
X	Exhibition	Exhibition
Z	Zoo	Zoo