

Review of three South African tortoise species

(Version edited for public release)

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Prepared for

The European Commission, Directorate General Environment, Directorate E - Global & Regional Challenges, LIFE ENV.E.2. – Global Sustainability, Trade & Multilateral Agreements, Brussels, Belgium

Prepared January 2014

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Citation

UNEP-WCMC. 2014. Review of three South African tortoise species. UNEP-WCMC, Cambridge.



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UNEP World Conservation Monitoring Centre (UNEP-WCMC)

219 Huntingdon Road,
Cambridge CB3 0DL, UK
Tel: +44 1223 277314
www.unep-wcmc.org

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4 Introduction and summary

This report reviews the conservation status and trade levels of three South African Tortoise species, *Homopus areolatus*, *Homopus femoralis* and *Psammobates tentorius* to inform discussions by the SRG on the sustainability of trade.

These species had been subject to Article 4.6(c) import suspensions from 1999 to 2006. When these suspensions were removed, all import applications then had to be referred to the SRG (no opinion (iii)). In 2012, positive opinions were formed for these three species. This report presents reviews of the three species.

REPTILIA: TESTUDINIDAE

Homopus areolatus II/B

SYNONYMS:	<i>Chersine tetradactyla</i> , <i>Testudo areolata</i> , <i>Testudo fasciata</i> , <i>Testudo miniata</i>
COMMON NAMES:	Grooved mountain tortoise (English), Homopode areole (French), Tortuga pico de loro (Spanish)
RANGE STATES:	South Africa
UNDER REVIEW:	South Africa
EU DECISIONS:	Current positive opinion for South Africa formed on 11/09/2012. Previous Article 4.6(c) import suspension for live wild specimens from South Africa first applied on 19/09/1999 and removed on 10/05/2006. Previous no opinion (iii) for South Africa formed on 01/07/2004 and confirmed on 07/06/2012.
IUCN:	Not evaluated

Trade patterns

Direct exports of *Homopus areolatus* from South Africa to the EU-28 2003-2012 comprised a small number of live, wild-sourced individuals exported for commercial purposes (Table 1), all of which were imported by Germany. Direct trade to the rest of the world 2003-2012 comprised eight

captive-bred carapaces exported as personal items to the United States and India. In addition, the United States reported the import of one source 'I' carapace in 2011 for personal purposes. No indirect exports of *H. areolatus* to the EU-28 originating in South Africa were reported 2003-2012.

Table 1: Direct exports of *Homopus areolatus* from South Africa to the EU-28 (EU) and the rest of the world (RoW), 2003-2012. (No trade was reported 2004-2007 or in 2009; at the time of data extraction, South Africa's annual report for 2012 had not yet been received.)

Importer	Term	Source	Purpose	Reported by	2003	2008	2010	2011	2012	Total
EU	live	W	T	Importer				2	17	19
				Exporter						
RoW	carapace	C	P	Importer						
				Exporter	2	5	1			8
		I	P	Importer				1		1
				Exporter						

Source: CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 15/11/2013.

Conservation status

H. areolatus is a small, sexually dimorphic tortoise species, averaging 100-130 mm in length, and is endemic to South Africa (Iverson, 1992; Branch, 2008). It has been recorded in the Cape coastal region, within the Northern, Western and Eastern Cape Provinces (Baard and de Villiers, 2000; Fritz and Havaš, 2007; Branch, 2008) and was reported to be found in various shrubland habitats, mostly below 600 m (Branch, 2008; Luiselli *et al.*, 2012). Females lay clutches of 1-3 eggs, normally once per year (Branch, 2008). In captivity, the species may live for more than 28 years (Branch, 2008).

In the late 1980's, *H. areolatus* was described as a common species which occupied a large range and varied habitats (Branch, 1989). Baard and de Villiers (2000) considered the population status of all tortoise species to be stable in Western Cape Province. In the late 2000's, *H. areolatus* was considered to be widespread but rarely common, without any evidence of significant population declines and the species was not regarded as threatened (Branch, 2008). CapeNature (2007), the institution with statutory responsibility for biodiversity conservation in the Western Cape, considered its population status to be relatively stable.

The species has not been officially assessed by the IUCN, although an evaluation by the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group in 1996 listed it as 'Least Concern', as did a national draft Red List assessment by the SARCA (South African Reptile Conservation Assessment) Committee in 2010 (Van Dijk *et al.*, 2012).

Branch (1989) considered the species to be threatened only on a minor, localised level and noted that it may have declined in heavily urbanised areas such as Cape Flats (Cape Town), but there was no evidence of exploitation, range contraction or severe habitat deterioration. More recently, however, habitat deterioration and destruction were reported to represent a threat to all South African tortoise species (Baard, 1995) and Baard and de Villiers

(2000) noted that in Western Cape Province, wild tortoises were sometimes collected for food. CapeNature (2007) considered collection for the pet trade as a potential threat to local populations of *H. areolatus*.

Illegal collection for the pet trade was reported to affect tortoises in Western Cape Province, although no specific species were mentioned (Baard and de Villiers, 2000; Turner, 2012). It was recommended that the commercial exploitation of reptiles in this province should be strictly controlled to ensure its sustainability and prevent adverse effects on ecosystem integrity (Baard and de Villiers, 2000) and that active monitoring of this trade should take place (Turner, 2012). *H. areolatus* was included in a list of species collected within Cape Town, where it was reportedly used for medicine and gathered by collectors or pet traders (Petersen *et al.*, 2012). Cheung and Dudgeon (2006) included *H. areolatus* in a list of species recorded in the pet trade in Hong Kong, and Auliya (2003) noted that *Homopus* spp. from South Africa were being illegally offered for sale in the EU.

All tortoises in the Cape provinces are protected by the Nature Conservation Ordinance of 1974 (Eastern Cape Province), the Western Cape Nature Conservation Laws Amendment Act of 2000 (Western Cape Province) and the Northern Cape Nature Conservation Act of 2009 (Northern Cape Province). As a result, the hunting, possession, transportation, sale, import, export and maintenance in captivity of these species are prohibited without a permit (Province of the Cape of Good Hope, 1974; Baard, 1995; Province of Western Cape 2000; Northern Cape Province 2009). Baard (1995) considered this level of protection to have been largely effective in preventing the exploitation of South African tortoises, although it was noted that illegal trade occasionally occurred.

H. areolatus was recorded from several protected areas such as Addo Elephant-, Bontebok- and West Coast National Parks (Branch, 2008), Langebaan National Park

and Cape Peninsula Reserve (Branch, 1989). Baard and de Villiers (2000) noted that the establishment of conservancies, which protected natural habitats, was proving beneficial for tortoise conservation in Western Cape Province.

Branch (1989) noted that *H. areolatus* tolerated captivity, however, Altherr and Freyer (2001) reported that there were few animals breeding in captivity and that the species was only suitable for specialists and not for private keepers.

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REPTILIA: TESTUDINIDAE

Homopus femoralis II/B

COMMON NAMES:	Greater padloper (English), Homopode éperonné (French), Homopode à éperon (French)
RANGE STATES:	Lesotho (?), South Africa
UNDER REVIEW:	South Africa
EU DECISIONS:	Current positive opinion for South Africa formed on 11/09/2012. Current no opinion (iii) for wild specimens from Lesotho formed on 01/07/2004. Previous Article 4.6(c) import restriction for live wild specimens from South Africa and Lesotho first applied on 19/09/1999 and removed on 10/05/2006. Previous no opinion (iii) for wild specimens from South Africa formed on 01/07/2004.
IUCN:	Not evaluated

Trade patterns

South Africa: Direct exports of *Homopus femoralis* from South Africa to the EU-28 2003-2012 comprised small numbers of live, wild-sourced individuals, imported by the Netherlands for scientific purposes and by Germany for commercial purposes (Table 1). Direct trade to the rest of the world comprised two captive-bred carapaces

exported to the United States as personal items (reported by the exporter only). No indirect exports of *H. femoralis* to the EU-28 originating in South Africa were reported 2003-2012.

Table 2: Direct exports of *Homopus femoralis* from South Africa to the EU-28 (EU) and the rest of the world (RoW), 2006-2012. (No trade was reported 2003-2005 or 2007-2009; at the time of data extraction, South Africa’s annual report for 2012 had not yet been received.)

Importer	Term	Source	Purpose	Reported by	2006	2010	2011	2012	Total	
EU	live	W	S	Importer	3				3	
				Exporter	3				3	
			T	Importer					1	1
				Exporter		4				4
RoW	carapace	C	P	Importer						
				Exporter			2		2	

Source: CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 15/11/2013.

Conservation status

H. femoralis is a small, sexually dimorphic tortoise species, averaging 100-130 mm in length, which inhabits rocky areas within montane grassland habitats, at altitudes of over 900 m (Branch, 1989; Branch, 2008). It has been reported mostly from South Africa (Iverson, 1992; Fritz and Havaš, 2007; Branch, 2008) and while Branch (2008) considered the range to extend into the mountains of southeast Lesotho, Van Dijk *et al.*, (2012) considered the occurrence of the species in Lesotho to be uncertain. It has a mean clutch size of three eggs (Loehr, 2013) which are laid in summer; in winter the species has been reported to hibernate (Branch, 2008).

The species has not been officially assessed by the IUCN although an evaluation by the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group in 1996 listed it as 'Least Concern', as did a draft national Red List assessment by the SARCA (South African Reptile Conservation Assessment) Committee in 2010 (Van Dijk *et al.*, 2012).

South Africa

The distribution of *H. femoralis* was reported to extend from the inland mountains of the Eastern Cape Province into southern and central Free State and to Kimberley in the Northern Cape Province (Branch, 2008). Fritz and Havaš (2007) also included the western part of Western Cape Province in the species' distribution and noted that it may also extend into the extreme southwest of North-West Province. Baard and de Villiers (2000) also noted the presence of the species in Western Cape Province. Relict populations were reported from Murraysberg to Sutherland in the Karoo, possibly extending into northwest Little Karoo (Branch, 2008).

In the late 1980's, the species was described as common and not endangered (Branch, 1989) and Baard and de Villiers (2000) considered the population status of all tortoise species to be stable in Western Cape Province. In the late 2000's, it was considered common in suitable habitat

(Branch, 2008). Surveys at Beaufort West (Western Cape Province), carried out between 2008 and 2011, recorded 27 *H. femoralis* over 305 hours of searching, covering an area of 95 000 m² and a 17.2 km carriageway, and the local population was considered to be relatively large, since no recaptures were made and 11 nests were located in a small area (Loehr, 2012).

Other threats to *H. femoralis* were reported to include heavy grazing, fires, predation from small carnivores (Branch, 1989), road mortality (Loehr, 2012a, cited in: Loehr, 2012b) and habitat deterioration and destruction (Baard, 1995; Baard and de Villiers, 2000; Turner; 2012). Branch (2008) did not consider the species to be threatened and reported that there was no evidence of population declines due to farming.

Baard and de Villiers (2000) noted that in Western Cape Province, wild tortoises were sometimes collected for food.

Illegal collection for the pet trade were reported to affect tortoises in Western Cape Province, although no specific species were mentioned (Baard and de Villiers, 2000; Turner, 2012). It was recommended that the commercial exploitation of reptiles in this province should be strictly controlled to ensure its sustainability and prevent adverse effects on ecosystem integrity (Baard and de Villiers, 2000) and that active monitoring of this trade should take place (Turner, 2012). Auliya (2003) noted that *Homopus* spp. from South Africa were being illegally offered for sale in the EU.

All tortoises in the Cape provinces are protected by the Nature Conservation Ordinance of 1974 (Eastern Cape Province), the Western Cape Nature Conservation Laws Amendment Act of 2000 (Western Cape Province) and the Northern Cape Nature Conservation Act of 2009 (Northern Cape Province). As a result, the hunting, possession, transportation, sale, import, export and maintenance in captivity of these species are prohibited without a permit (Province of the Cape of Good Hope, 1974;

Baard, 1995; Province of Western Cape 2000; Northern Cape Province 2009). Beard (1995) considered this level of protection to have been largely effective in preventing the exploitation of South African tortoises, although it was noted that illegal trade occasionally occurred.

The species was recorded from several protected areas, including Mountain Zebra- (Grobler and Bronkhorst, 1981; Branch, 2008), Karoo- and Camdeboo National Parks (Branch, 2008). Beard and de Villiers (2000) noted that the establishment of conservancies, which protected natural habitats, was proving beneficial for tortoise conservation in Western Cape Province.

Branch (1989) noted that *H. femoralis* rarely survived in captivity outside its native habitat and Altherr and Freyer (2001) reported that while the species was common in captivity, there were few breeding animals and it was only suitable for specialists and not private keepers. The first successful attempt at captive breeding in South Africa was reported to have taken place in 2007 (Loehr, 2009).

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REPTILIA: TESTUDINIDAE

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Psammobates tentorius II/B

SYNONYMS:	<i>Chersinella fiski</i> , <i>Chersinella schonlandi</i> , <i>Chersinella tentoria</i> , <i>Chersinella verroxi</i> , <i>Homopus bergeri</i> , <i>Peltastes verreauxii</i> , <i>Psammobates depressa</i> , <i>Testudo boettgeri</i> , <i>Testudo fiski</i> , <i>Testudo geometrica nigriventris</i> , <i>Testudo oscarboettgeri</i> , <i>Testudo seimundi</i> , <i>Testudo smithi</i> , <i>Testudo tentoria</i> , <i>Testudo trimeni</i> , <i>Testudo verreauxii</i> , <i>Testudo verroxii</i>
COMMON NAMES:	African tent tortoise (English), Tortue bosselée (French), Tortuga estrellada sudafricana (Spanish)
RANGE STATES:	Namibia, South Africa
UNDER REVIEW:	South Africa
EU DECISIONS:	Current positive opinion for South Africa formed on 11/09/2012. Current no opinion (iii) for wild specimens from Namibia formed on 01/07/2004. Previous Article 4.6(b) import restriction for live wild specimens from Namibia and South Africa first applied on 19/09/1999 and removed on 10/05/2006.
IUCN:	Not evaluated

Taxonomic note

The CITES standard nomenclature reference for Testudines (Fritz and Havaš, 2007) recognised three subspecies of *Psammobates tentorius*: *P. t. tentorius*, *P. t. trimeni* and *P. t. verroxii*.

Trade patterns

South Africa: Direct exports of *Psammobates tentorius* from South Africa to the EU-28 2003-2012 primarily comprised live, captive-bred individuals exported for commercial purposes from 2008 onwards, the majority reported by the exporter only (Table 1). According to exporter-reported data, the principal importer was Belgium, with France importing smaller numbers. In addition, Germany reported the import of a small number of live, wild-sourced

individuals for commercial purposes in 2012. Trade data by EU Member State is available here: <https://db.tt/yzuTuLyl>.

Direct trade to the rest of the world also consisted mainly of live, captive-bred individuals traded for commercial purposes from 2008 onwards; trade peaked in 2009 and has declined since. The principal importer was Japan. In addition, small quantities of captive-bred carapaces were exported to the United States as personal items (12) and to Japan for commercial purposes (four), all of which were reported by the exporter only. No indirect trade in *P. tentorius* to the EU-28 originating in South Africa was reported 2003-2012.

Table 3: Direct exports of *Psammobates tentorius* from South Africa to the EU-28 (EU) and the rest of the world (RoW), 2008-2012. (No trade was reported 2003-2007; at the time of data extraction, South Africa's annual report for 2012 had not yet been received.)

Importer	Term	Source	Purpose	Reported by	2008	2009	2010	2011	2012	Total	
EU	live	W	T	Importer					3	3	
				Exporter							
		C	T	Importer	10					10	
				Exporter	10		26	28		64	
RoW	live	C	T	Importer	12		12	6		30	
				Exporter	16	40	6	4		66	
	carapace	C	P	Importer							
				Exporter	2	10				12	
				T	Importer						
					Exporter				4		4

Source: CITES Trade Database, UNEP-WCMC, Cambridge, UK, downloaded on 15/11/2013.

Conservation status

P. tentorius is a small, sexually dimorphic tortoise species, reaching a maximum length of 100-150 mm, which was reported to be found in a variety of arid semi-desert and dry savannah habitats (Branch 1989; Branch 2008; Luiselli *et al.* 2012). It was reported to occur in the Great Namaqualand of Namibia, and southeastward as far as Eastern Cape Province in South Africa (Iverson 1992; Fritz and Havaš 2007; Branch 2008). Most females produce multiple clutches each year (Branch, 2008) and studies on *P. t. tentorius* reported a mean of 3.7 clutches each year, each with an average of 1.78 eggs (Leuteritz and Hofmeyr, 2007). The other subspecies were considered to produce fewer clutches (1-4), with fewer eggs (1-2) in each clutch (Branch, 2008). The species was reported to live for 7-8 years in captivity (Branch 2008).

P. tentorius has not been officially assessed by the IUCN although an evaluation by the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group in 1996 listed it as 'Least Concern', as did a draft national Red List assessment by the SARCA (South African Reptile Conservation Assessment Committee in 2010 (Van Dijk *et al.*, 2012).

South Africa

P. t. tentorius was reported to occur in the southern and eastern Karoo from Grahamstown (Eastern Cape Province) to Matjiesfontein (Western Cape Province) (Iverson 1992; Fritz and Havaš 2007; Branch 2008), *P. t. trimeni* was reported from Eastern Cape and Northern Cape Provinces, northwards of Lambert's Bay (Iverson 1992; CapeNature 2007b; Fritz and Havaš 2007; Branch 2008), and *P. t. verroxii* was reported from Northern Cape Province and southwards to the Tankwa Karoo (Northern Cape and Western Cape Provinces) and possibly in the southern part of Free State Province (Iverson 1992; Fritz and Havaš 2007; CapeNature 2007a; Branch 2008). The ranges of the three subspecies were reported to overlap in large zones (Branch 1989; Branch 2008).

P. tentorius was described by Branch (1989) as a common, widespread species, which was usually found in low population densities, although there were no published population estimates and its cryptic colouration meant it was rarely seen. Baard and de Villiers (2000) considered the population status of all tortoise species to be stable in Western Cape Province. Branch (2008) noted later that the species often occurred in low densities.

The species was considered to be threatened only on a minor, localised level and was thought to have possibly declined in areas subject to heavy grazing, particularly throughout the Great Karoo, although there was no evidence of exploitation or range contraction (Branch, 1989). Baard and de Villiers (2000) noted that in Western Cape Province, wild tortoises were sometimes collected for food. CapeNature (2007a, 2007b), the institution with statutory responsibility for biodiversity conservation in the Western Cape, reported that *P. t. verroxii* and *P. t. trimeni* were threatened locally by habitat destruction, poor landuse management, illegal collection for the pet trade, domestic dogs and being killed for food. Branch (2008) did not consider the species to be threatened due to its wide distribution, but noted that the habitat of *P. t. trimeni* may be affected by climate change. Habitat deterioration and destruction was also considered a threat to South African tortoises (Baard, 1995; Baard and de Villiers, 2000; Turner, 2012).

Illegal collection for the pet trade were reported to affect tortoises in Western Cape Province, although no specific species were mentioned (Baard and de Villiers, 2000; Turner, 2012). It was recommended that the commercial exploitation of reptiles in this province should be strictly controlled to ensure its sustainability and prevent adverse effects on ecosystem integrity (Baard and de Villiers, 2000) and that active monitoring of this trade should take place (Turner, 2012). Cheung and Dudgeon (2006) included *P. tentorius* in a list of species recorded in trade in Hong Kong and Guangzhou (southern China) while Theile *et al.* (2004) reported that 22 *P. tentorius* were included in a parcel of reptiles smuggled from South Africa to Czech Republic in 1998. Auliya (2003) noted that *Psammobates* spp. from South Africa were among the reptile species being illegally offered for sale in the EU.

All tortoises in the Cape provinces are protected by the Nature Conservation Ordinance of 1974 (Eastern Cape Province), the Western Cape Nature Conservation

Laws Amendment Act of 2000 (Western Cape Province) and the Northern Cape Nature Conservation Act of 2009 (Northern Cape Province). As a result, the hunting, possession, transportation, sale, import, export and maintenance in captivity of these species are prohibited without a permit (Province of the Cape of Good Hope, 1974; Baard, 1995; Province of Western Cape 2000; Northern Cape Province 2009). Baard (1995) considered this level of protection to have been largely effective in preventing the exploitation of South African tortoises, although it was noted that illegal trade occasionally occurred.

P. tentorius was recorded from the Karoo- and Tankwa National Parks and from Akkerendam-, Karoo-, and Hester Malan Nature Reserves (Branch 1989), while *P. t. trimeni* was also recorded from Goegap Nature Reserve (Mahnkopf, 2004). Baard and de Villiers (2000) noted that the establishment of conservancies, which protected natural habitats, was proving beneficial for tortoise conservation in Western Cape Province.

It was reported that *P. tentorius* did not survive well in captivity, with many specimens not living for more than one year (Branch 1989; Branch 2008). Altherr and Freyer (2001) noted that the species was only suitable for specialists and not for private keepers. No information on breeders in South Africa could be located.

16 References

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18 Appendix 1

Table 1: Purpose of trade

Code	Description
T	Commercial
Z	Zoo
G	Botanical garden
Q	Circus or travelling exhibition
S	Scientific
H	Hunting trophy
P	Personal
M	Medical (including biomedical research)
E	Educational
N	Reintroduction or introduction into the wild
B	Breeding in captivity or artificial propagation
L	Law enforcement / judicial / forensic

Table 2: Source of specimens

Code	Description
W	Specimens taken from the wild
R	Ranched specimens: specimens of animals reared in a controlled environment, taken as eggs or juveniles from the wild, where they would otherwise have had a very low probability of surviving to adulthood
D	Appendix-I animals bred in captivity for commercial purposes in operations included in the Secretariat's Register, in accordance with Resolution Conf. 12.10 (Rev. CoP15), and Appendix-I plants artificially propagated for commercial purposes, as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 4, of the Convention
A	Plants that are artificially propagated in accordance with Resolution Conf. 11.11 (Rev. CoP15), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5 (specimens of species included in Appendix I that have been propagated artificially for non-commercial purposes and specimens of species included in Appendices II and III)
C	Animals bred in captivity in accordance with Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5
F	Animals born in captivity (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof
U	Source unknown (must be justified)
I	Confiscated or seized specimens (may be used with another code)
O	Pre-Convention specimens