

## *Homopus signatus*, Speckled Dwarf Tortoise

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Reptilia	Testudines	Testudinidae

**Taxon Name:** *Homopus signatus* (Gmelin, 1789)

### Synonym(s):

- *Chersobius peersi* Archer, 1968
- *Chersobius signatus* — Hewitt, 1937
- *Testudo signata* Gmelin, 1789

### Common Name(s):

- English: Speckled Dwarf Tortoise, Speckled Cape Tortoise, Speckled Padloper, Speckled Tortoise
- French: Homopode marqué
- Spanish: Tortuga Manchada

### Taxonomic Notes:

Two subspecies have been recognised, namely *Homopus signatus signatus* and *H. s. cafer*, with a zone of intergradation in the eastern part of the range in the western Great Karoo (Boycott 1986, 1989; Bour 1988; Iverson 1992; Branch 1998; Boycott and Bourquin 2000; Loehr 2008). However, a range-wide study by Daniels *et al.* (2010) evaluated the genetic distinctiveness of the two putative subspecies as well as intergrades and found limited differentiation within the species. It was concluded that *H. s. cafer* is not a valid taxon, rendering *H. signatus* monotypic. However, the status of a population from the Pofadder area requires further investigation (Daniels *et al.* 2010). Colour patterns previously used to distinguish the two subspecies appear to be related to crypsis on different substrates.

## Assessment Information

**Red List Category & Criteria:** Vulnerable A2acd [ver 3.1](#)

**Year Published:** 2017

**Date Assessed:** May 16, 2013

### Justification:

This species is assessed as Vulnerable as it has undergone an inferred population reduction of over 30% in the past three generations (75 years) due to anthropogenic land transformation, where the causes of destruction may not have ceased, based on direct observation [A2a], a decline in AOO, EOO and habitat quality [A2c], and actual levels of exploitation [A2d]. These declines are considered likely to continue into the future.

### Previously Published Red List Assessments

1996 – Lower Risk/near threatened (LR/nt)

<http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T10241A3184678.en>

## Geographic Range

**Range Description:**

Endemic to South Africa, occurring mainly along the West Coast region of the Western Cape and Northern Cape, from Piketberg and around Citrusdal in the south, northwards across the Olifants River into the Namaqualand Hardeveld to the Springbok-Steinkopf area. Eastwards, the distribution reaches as far inland as the Klipwerf-Loeriesfontein-Calvinia area of the Roggeveld-Bokkeveld region in the Northern Cape. The most northerly records are from the Richtersveld (Bauer and Branch 2003 [2001]) and from just north of Pofadder (Branch *et al.* 2007). Griffin (2003) did not substantiate any *Homopus signatus* records from Namibia, including a record from the Fish River Canyon Park (Boycott and Bourquin 2000). Earlier records of this species from Namibia (Mertens 1955, 1971) are referable to *H. solus* (Branch 2007).

**Country Occurrence:**

**Native:** South Africa (Northern Cape Province, Western Cape)

## Population

No information on population size is currently available, but there is evidence of a population decline.

**Current Population Trend:** Decreasing

## Habitat and Ecology (see Appendix for additional information)

Occurs predominantly in the winter rainfall region of the northwestern Succulent Karoo and Fynbos biomes along the West Coast and adjacent inland of South Africa. Found from a few metres above sea level on the West Coast to elevations of around 1,000 m in the interior at Loeriesfontein-Calvinia and the Cederberg Range (Boycott 1989). Shows a particular preference for rocky terrain, which includes typical Namaqualand and Hardeveld granite koppies (hills) in the north, and typical Sandveld and Cederberg sandstone koppies and rocky ridges in the south. Occurs in low to medium-high Namaqualand succulent shrubland (blomveld) and heuweltjieveld, and fynbos and strandveld shrub vegetation, both in the Succulent Karoo and Fynbos biomes. Prefers to shelter in rock crevices or under medium to large boulders and rock slabs, a behaviour that provides protection against temperature extremes and predation.

**Systems:** Terrestrial

## Use and Trade

Some illegal off-take has taken place during the past decades for the pet trade. The extent and trend of this is unknown.

## Threats (see Appendix for additional information)

Listed as Restricted by Boycott (1988) and as Lower Risk/near threatened in the 1996 IUCN global listing (IUCN 1996). Currently considered Vulnerable, mainly due to human-induced habitat degradation and destruction and the international reptile pet trade. Observations and focused research throughout the known range indicate that this species is intolerant of habitat modification. There appears to be a strong correlation between population status and habitat quality. Severe habitat fragmentation has resulted from extensive agricultural development throughout the range and especially in the Sandveld region. This includes the irreversible alteration of the inter-koppie (small hill) habitat—a zone that probably plays an important role in inter-population gene flow. Overgrazing by domestic stock, especially goats, further degrades and threatens remaining natural koppie habitats. There is illegal collection for export to the international pet trade, although this is infrequent. Midgley *et al.* (2005) recorded the imminent threat and potential impact of global climate change on the western parts of South Africa. Loehr (2008) clearly demonstrated that the expected changes in rainfall pattern and temperature across the range is likely to severely impact growth rates and fecundity of individuals, and consequently the survival of the species.

## Conservation Actions (see Appendix for additional information)

This species is listed on CITES Appendix II.

Conservation actions recommended include:

- Continue research into the life history of the species.

- Develop a species Biodiversity Management Plan (BMP-S).
- Cultivate conservation stewardship arrangements that include more natural habitat (throughout the range) in formal conservation arrangements.
- Be vigilant for illegal collection of specimens for the pet trade.

## Credits

**Assessor(s):** Baard, E.H.W. & Hofmeyr, M.D.

**Reviewer(s):** Bauer, A., Rhodin, A.G.J. & van Dijk, P.P.

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## External Resources

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# Appendix

## Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
0. Root -> 6. Rocky areas (eg. inland cliffs, mountain peaks)	Resident	Suitable	Yes
3. Shrubland -> 3.8. Shrubland - Mediterranean-type Shrubby Vegetation	Resident	Suitable	Yes
3. Shrubland -> 3.5. Shrubland - Subtropical/Tropical Dry	Resident	Suitable	Yes

## Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Unknown	Negligible declines	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Unknown	Causing/could cause fluctuations	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
11. Climate change & severe weather -> 11.3. Temperature extremes	Future	Unknown	Causing/could cause fluctuations	Unknown
	Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.1. Species mortality		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	Ongoing	Unknown	Causing/could cause fluctuations	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.1. Nomadic grazing	Ongoing	Unknown	Slow, significant declines	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Unknown	Slow, significant declines	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	Unknown	Slow, significant declines	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		



## Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Conservation Actions in Place</b>
In-Place Research, Monitoring and Planning
Action Recovery plan: No
Systematic monitoring scheme: No
In-Place Land/Water Protection and Management
Conservation sites identified: Unknown
Occur in at least one PA: Yes
In-Place Education
Included in international legislation: Yes
Subject to any international management/trade controls: Yes

## Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Conservation Actions Needed</b>
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.2. Species recovery
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.1. International level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level
6. Livelihood, economic & other incentives -> 6.5. Non-monetary values

## Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Research Needed</b>
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends

<b>Research Needed</b>
1. Research -> 1.3. Life history & ecology
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 2730
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 97213
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 4-6
Continuing decline in number of locations: Unknown
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 0
Upper elevation limit (m): 1000
<b>Population</b>
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: No
No. of subpopulations: 3
Continuing decline in subpopulations: Yes
All individuals in one subpopulation: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 25
Movement patterns: Not a Migrant

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