



Conservation status
of the
reptiles
of South Africa, Eswatini
and Lesotho

Edited by K.A. Tolley, W. Conradie, D.W. Pietersen,
J. Weeber, M. Burger & G.J. Alexander

SURICATA 10

Family Amphisbaenidae

Chirindia langi FitzSimons, 1939

Lang's Worm Lizard

South African endemic

■ LC – Least Concern (Global)

Assessor: Measey, J.

Previous Red List categories:

- 2018: Least Concern (Global IUCN assessment).
- 2017: Least Concern (Global IUCN assessment).

Subspecies assessed:

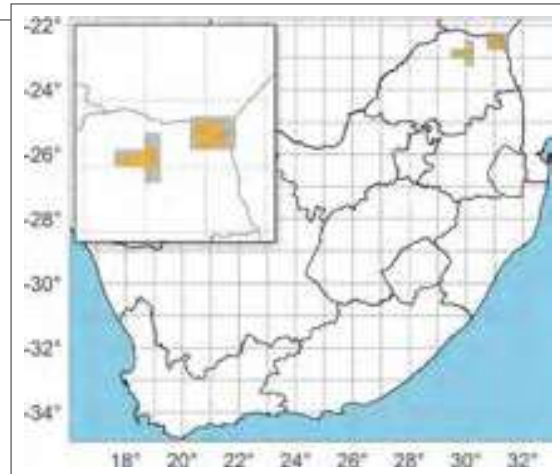
- 2014: *Chirindia langi langi* – Least Concern (SARCA).
- 2014: *Chirindia langi occidentalis* – Vulnerable (SARCA).

Subspecies included under this assessment:

- *Chirindia langi langi* FitzSimons, 1939.
- *Chirindia langi occidentalis* Jacobsen, 1984.

Assessment rationale: There is some loss of habitat quality and extent locally in the western part of the range, but this is not considered a significant threat to the species.

Taxonomic notes: The taxonomic status of the *C. langi* species complex should be reassessed, preferably by using a combination of morphological and



phylogenetic analyses, to determine whether the subspecies *C. l. occidentalis* is a valid taxon. *Other important names:* none.

Distribution: This species occurs as two disjunct sub-populations that correspond to the two subspecies. It occurs in the Soutpansberg, northern Limpopo province (South Africa), and in northern Kruger National Park (South Africa) and is likely to extend into adjacent Mozambique (Jacobsen 1989; Branch 1998) but has not yet been recorded from there. The distribution of this species is not fully known and it may extend further into Mozambique and possibly into

Chirindia langi occidentalis, Soutpansberg, Limpopo province (© M. Petford).



Family Amphisbaenidae

southeastern Zimbabwe than current records suggest. *EOO*: 7 540 km²; *Distribution*: 3 610 km².

Country of occurrence: South Africa.

Habitat and ecology: A fossorial species, occurring under rocks, in burrows or in rotting logs, in sandy Kalahari soils with Mixed Bushveld and clay substrates of mopane (*Colophospermum mopane*) Woodland between 230 and 1 400 m a.s.l. elevation (Jacobsen 1989). It is unknown to what extent they are able to disperse, although vagility within soil is expected to be low. The two subspecies appear to occur at different elevations with *C. l. occidentalis* at higher elevations (800–1 400 m a.s.l.) and *C. l. langi* at lower elevations (230–700 m a.s.l.). *Habitat*: Savanna.

Threats: Habitat transformation caused by agricultural activities could be a threat in parts of the range (Jacobsen 1989).

Population trend: This species occurs at low densities even where habitat is appropriate. Despite this, the population size is assumed to be stable because this is a fairly widespread species, and the extent of habitat transformation is small in relation to the large range of this species.

Conservation and research recommendations: An improved estimate of the distribution is needed, as well as an assessment of the potential impacts of agricultural activities. The taxonomy of the subspecies should be assessed in a phylogenetic framework.

Family Amphisbaenidae

Dalophia pistillum (Boettger, 1895)

Blunt-tailed Worm Lizard

■ LC – Least Concern (Regional)

Assessor: Measey, J.

Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: Widespread and common throughout its global range. Although rarely recorded from South Africa, it is not considered to be under any significant threats.

Taxonomic notes: No taxonomic issues. *Other important names:* none.

Distribution: Widely distributed in southern Africa and into Angola (Broadley et al. 1976; Branch 1998). There are very few records from South Africa, making an estimate of distribution difficult. It most likely occurs from Limpopo province, westward into the Northern Cape province (Bates et al. 2010). *EOO:* 191 000 km²; *Distribution:* 157 000 km².

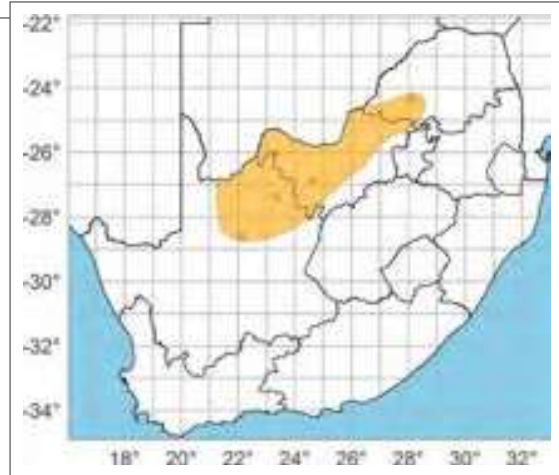
Countries of occurrence: Angola, Botswana, Mozambique, Namibia, South Africa, Zambia, Zimbabwe.

Habitat and ecology: Fossorial, usually found within 20 cm of the soil surface, and known to take refuge in grass roots at depths of 10 cm (Jacobsen 1989). *Habitat:* Savanna, Shrubland.

Threats: There are no substantial threats to this species.

Population trend: In spite of there being few records from South Africa, the species is probably widespread and occurs largely in areas not significantly impacted by habitat loss, thus the population is unlikely to have declined significantly. The lack of records is most likely due to the fossorial nature of this species, making these lizards difficult to record.

Conservation and research recommendations: No recommendations.



Dalophia pistillum, Maun, Botswana (© G. Reed).

Dalophia pistillum, Maun, Botswana (© G. Reed).



Family Amphisbaenidae

Monopeltis capensis Smith, 1848

South African Spade-snouted
Worm Lizard

Regional near-endemic

■ LC – Least Concern (Global)

Assessor: Measey, J.

Previous Red List categories:

2018: Least Concern (Global IUCN assessment).

2017: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

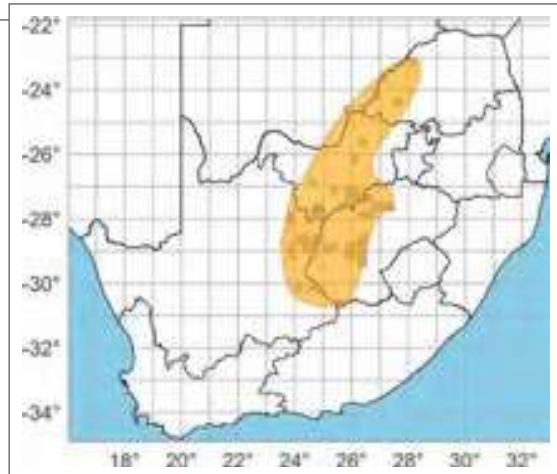
Assessment rationale: A widespread and common species with no substantial threats.

Taxonomic notes: The three forms of *M. c. capensis* and the subspecies *M. c. rhodesianus* were elevated to full species based on morphology (Broadley 1997), but this has not yet been examined in a phylogenetic framework (see Measey & Tolley 2013). *Other important names:* none.

Distribution: Occurs in north-central South Africa and marginally in southeastern Botswana (Broadley 1997). The distribution appears to largely coincide with Highveld Grassland and Kalahari bushveld. *EOO:* 231 300 km²; *Distribution:* 203 150 km².

Countries of occurrence: Botswana, South Africa.

Habitat and ecology: Fossorial, occurring in soils at depths up to 20 cm (Broadley et al. 1976) and has



been recorded under large rocks (e.g., Conradie et al. 2011) and on the surface after heavy rains. *Habitat:* Grassland, Savanna, Shrubland.

Threats: This fossorial species may be impacted by intensive agriculture and other land uses that disturb the soil, but this is not considered a significant threat at present.

Population trend: Although there is some habitat loss across the range, the widespread range and abundance of this lizard mitigates against the negative effects of local population declines.

Conservation and research recommendations: No recommendations.

Monopeltis capensis, Rooipoort, Northern Cape province (© K.A. Tolley).



Family Amphisbaenidae

Monopeltis decosteri Boulenger, 1910

De Coster's Spade-snouted Worm Lizard

■ LC – Least Concern (Regional)

Assessor: Measey, J.

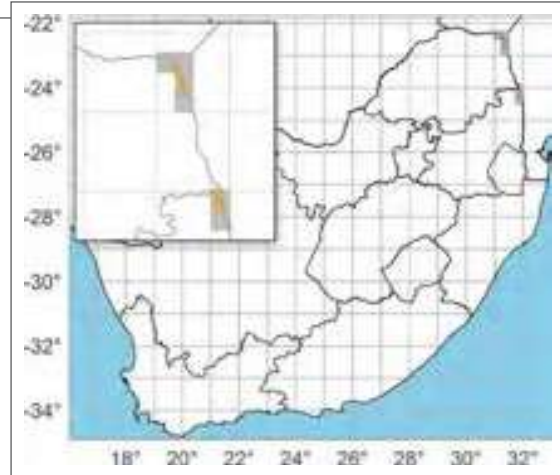
Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: Within South Africa, this species has a moderate-sized distribution and occurs entirely within a large, protected area, with no significant threats.

Taxonomic notes: *Monopeltis decosteri* falls within the larger *M. capensis* species complex (Broadley et al. 1976) and was considered a synonym of *M. capensis* until its reinstatement as a full species (Broadley 1997). A phylogenetic analysis of the relationships within this species complex has not yet been carried



out (see Measey and Tolley 2013). *Other important names:* *Monopeltis capensis capensis* ('Group C').

Distribution: Occurs in northeastern southern Africa. Widespread on the Mozambique plain, entering southeastern Zimbabwe. In South Africa, it occurs in sandy intrusions in the extreme northeastern and eastern Kruger National Park in Limpopo and Mpumalanga provinces (Broadley 1997). *EOO:* 2 720 km²; *Distribution:* 716 km².

Countries of occurrence: Mozambique, South Africa, Zimbabwe.

Habitat and ecology: Fossorial, occurring in sandy soils (Branch 1998). *Habitat:* Savanna.

Threats: There are no significant threats.

Population trend: The population size is assumed to be stable because it occurs entirely within a protected area that has not been impacted by habitat transformation.

Conservation and research recommendations: Additional occurrence records would allow for a better estimate of distribution, particularly outside of South Africa. A phylogenetic analysis that includes this and other species in the genus would allow for an improved assessment of the current taxonomy in the group.



Monopeltis decosteri, Maputo Bay, Mozambique (© M. Burger).

Family Amphisbaenidae

Monopeltis infuscata Broadley, 1997

Dusky Spade-snouted Worm Lizard

■ LC – Least Concern (Regional)

Assessor: Measey, J.

Previous Red List categories:

2020: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: This is a widespread species with no significant threats.

Taxonomic notes: *Monopeltis infuscata* falls within the larger *M. capensis* species complex (Broadley et al. 1976). Although other species of *Monopeltis* have been included in a phylogenetic analysis (Measey & Tolley 2013), *M. infuscata* has not yet been included so its phylogenetic placement is not certain. *Other important names:* *Monopeltis capensis capensis* ('Group B').

Distribution: Widespread in southern Africa, ranging from southern Angola through Namibia and Botswana to South Africa and extreme southern Zimbabwe (Broadley 1997). In South Africa, it occurs in the northeast, extending westward to the arid Northern Cape province (Broadley 1997). *EOO:* 670 000 km²; *Distribution:* 412 000 km².

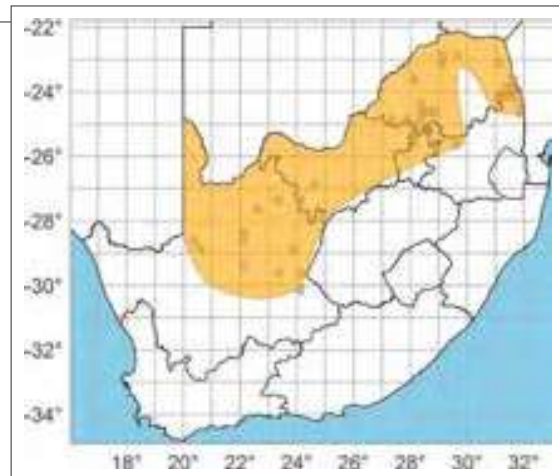
Countries of occurrence: Angola, Botswana, Namibia, South Africa, Zimbabwe.

Habitat and ecology: Fossorial, although individuals are sometimes observed on the surface following heavy rains. *Habitat:* Grassland, Savanna, Shrubland.

Threats: There are no substantial threats to this species.

Population trend: The population size is assumed to be stable because this is a widespread species and much of the distribution is in areas that are not heavily impacted by habitat transformation.

Conservation and research recommendations: No recommendations.



Monopeltis infuscata, Hoedspruit, Limpopo province (© D.W. Pietersen).

Monopeltis infuscata, Groblershoop, Northern Cape province (© D.W. Pietersen).



Family Amphisbaenidae

Monopeltis leonhardi Werner, 1910

Kalahari Worm Lizard

■ LC – Least Concern (Regional)

Assessors: Alexander, G.J., Tolley, K.A.,
Measey, J.

Previous Red List categories:

2020: Least Concern (Global IUCN assessment).

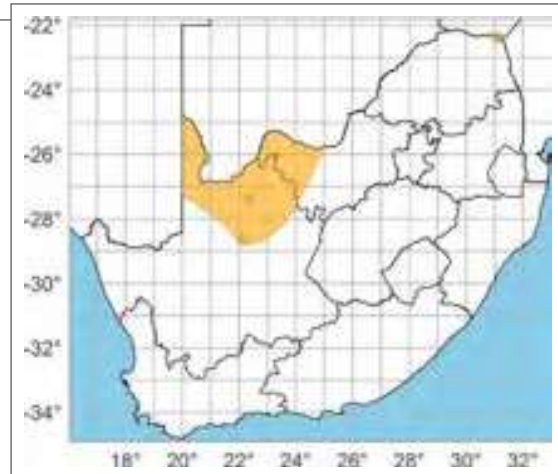
Assessment rationale: Presumably widespread with no major threats.

Taxonomic notes: No issues. *Other important names:* none.

Distribution: This species has been recorded from eastern Namibia, extending across Botswana, into southeastern Zimbabwe, and Limpopo and Northern Cape provinces, South Africa. *EOO:* 354 000 km²; *Distribution:* 109 000 km².

Countries of occurrence: Botswana, Namibia, South Africa, Zimbabwe.

Habitat and ecology: This is a fossorial species that occurs in sandy substrates (Broadley et al. 1976).
Habitat: Savanna.



Threats: There are no significant threats.

Population trend: There are only a few records for this species, but it is assumed to be widespread in an area that is not significantly impacted by habitat transformation.

Conservation and research recommendations: Additional distribution records are needed to assess the extent of the distribution, particularly for South Africa.

Monopeltis leonhardi, Groblershoop, Northern Cape province (© D.W. Pietersen).



Family Amphisbaenidae

Monopeltis mauricei Parker, 1935

Maurice's Spade-snouted
Worm Lizard

■ LC – Least Concern (Regional)

Assessor: Measey, J.

Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: Widespread across areas that have largely intact habitat.

Taxonomic notes: *Monopeltis mauricei* has been treated as a subspecies of *M. sphenorhynchus* (Broadley et al. 1976; Branch 1998) but was elevated to specific status based on morphology (Broadley 2001a). These two species were thought to be allopatric, however a new record shows that *M. sphenorhynchus* occurs deep within the range of *M. mauricei* (Bates et al. 2010), and there is some overlap between the number of body annuli between these two species. The specific status of these species should be re-evaluated within a phylogenetic framework. *Other important names:* *Monopeltis sphenorhynchus mauricei*.

Distribution: Occurs in the Kalahari Desert, extending into southwestern Zambia and northwestern Zimbabwe. In South Africa, it occurs in areas north of the Orange River (Broadley et al. 1976; Bates et al. 2010). *EOO:* 108 000 km²; *Distribution:* 67 400 km².

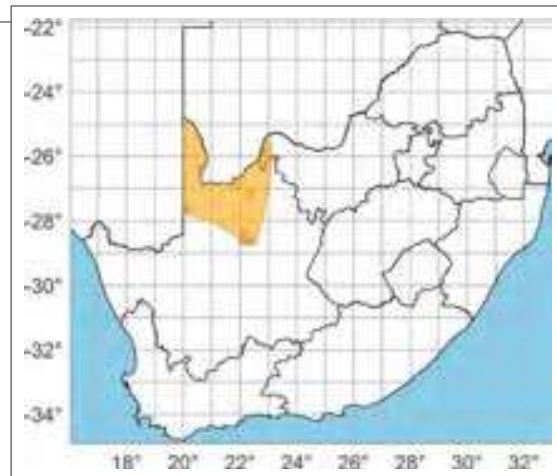
Countries of occurrence: Botswana, Namibia, South Africa, Zambia, Zimbabwe.

Habitat and ecology: Fossorial, usually occurring in sparsely vegetated sands. Individuals are often found on the surface following heavy rains. *Habitat:* Grassland, Savanna, Shrubland.

Threats: There are no substantial threats to this species.

Population trend: The population size is assumed to be stable because this is a widespread and common species that occurs in areas that are not greatly impacted by habitat transformation.

Conservation and research recommendations: The taxonomic relationship between this species and *M. sphenorhynchus* should be evaluated within a phylogenetic framework.



Monopeltis mauricei, Groblershoop, Northern Cape province (© D.W. Pietersen).

Monopeltis mauricei, Grootdrink, Northern Cape province (© D.W. Pietersen).



Family Amphisbaenidae

Monopeltis sphenorhynchus Peters, 1879

Slender Spade-snouted Worm Lizard

■ LC – Least Concern (Regional)

Assessor: Measey, J.

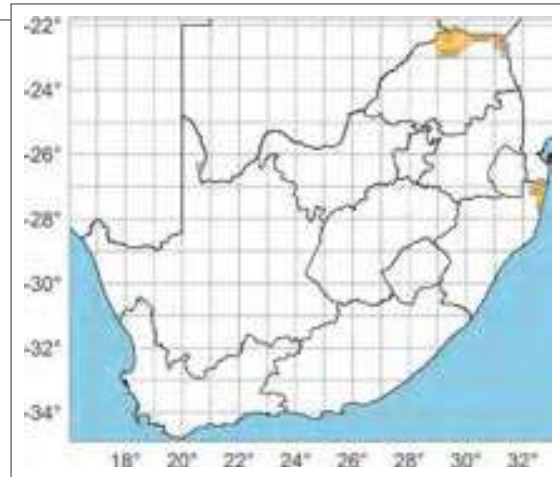
Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: Much of this species' range falls within protected areas and it is relatively common where it occurs, with no significant threats.

Taxonomic notes: *Monopeltis mauricei* was formerly a subspecies of *M. sphenorhynchus*, with *M. mauricei* elevated to a full species based on distinct morphological characters and an apparently allopatric distribution (Broadley et al. 1976; Broadley 2001a). A phylogenetic study (Measey & Tolley 2013) shows that this species falls within the *M. capensis* group, but with some uncertainty over its relationship with *M. capensis*. Given that a new record shows that



M. sphenorhynchus occurs deep within the range of *M. mauricei* (Bates et al. 2010), and there is some overlap between the number of body annuli between the species, the specific status of these species should be re-evaluated within a phylogenetic framework. *Other important names:* none.

Monopeltis sphenorhynchus, Masisi, Limpopo province (© R.I. Stander).



Family Amphisbaenidae



Monopeltis sphenorhynchus, Venetia Limpopo Nature Reserve, Limpopo province (© M. Burger).

Distribution: Widespread from northeastern South Africa and southern coastal Mozambique, across the Mozambique plains, into southeastern Botswana (Broadley 2001a; Pietersen et al. 2013). The range enters South Africa in two areas, northern KwaZulu-Natal province and Limpopo province, north of the Soutpansberg (Branch 1998). A record from the Kgalagadi Transfrontier Park in the Northern Cape province also appears to be referable to this species (Bates et al. 2010), suggesting it could be more widespread in South Africa. *EOO*: 445 000 km²; *Distribution*: 14 000 km².

Countries of occurrence: Botswana, Mozambique, South Africa.

Habitat and ecology: Fossorial, usually occurring in deep sand from near sea level to at least 800 m a.s.l. (Jacobsen 1989). *Habitat*: Grassland, Forest, Savanna.

Threats: There are no substantial threats to this species.

Population trend: In spite of the small geographic range of this species in South Africa, it occurs in areas with relatively little habitat transformation, including in protected areas. Population size is thus assumed to be stable.

Conservation and research recommendations: The taxonomic status of the population in the Kgalagadi Transfrontier Park in the Northern Cape province of South Africa should be investigated, as should the identity of the intervening populations between this record and the main population. The validity of *M. sphenorhynchus* and *M. mauricei* should be evaluated in a phylogenetic framework.

Family Amphisbaenidae

Zygaspis arenicola Broadley & Broadley, 1997

Sand-dwelling Dwarf Worm Lizard

■ LC – Least Concern (Regional)

Assessors: Pietersen, D.W., Conradie, W., Tolley, K.A., Weeber, J., Alexander, G.J.

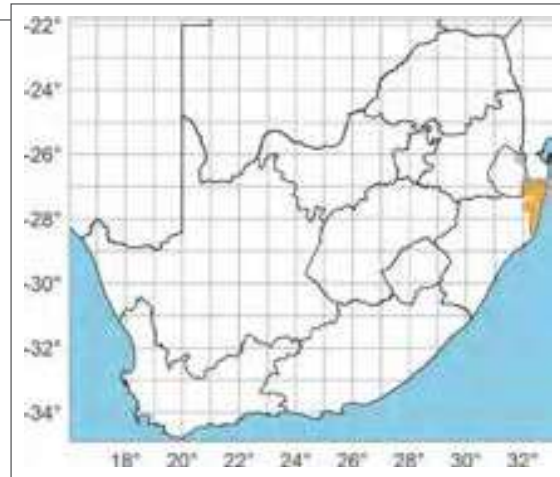
Previous Red List categories:

2020: Least Concern (Global IUCN assessment).

Assessment rationale: Although there may be some decline in extent and quality of habitat within the distribution, this species has a large range and the threats are not considered significant.

Taxonomic notes: The two subspecies, *Z. v. vandami* and *Z. v. arenicola* (Broadley & Broadley 1997) were referred to as separate species by Gans (2005). On the basis of differences in geographic range and ecology, as well as the morphological differences, Bates (2018) elevated *Z. arenicola* to a full species, and by this action, *Z. vandami* is now considered a monotypic species. A phylogenetic analysis of their relationships has yet to be carried out. *Other important names:* *Zygaspis vandami arenicola*.

Distribution: Occurs in the northeastern lowland parts of South Africa and eastern Eswatini, into adjacent



southern Mozambique and southeastern Zimbabwe. *EOO:* 16 400 km²; *Distribution:* 8 550 km².

Countries of occurrence: Eswatini, Mozambique, South Africa, Zimbabwe.

Habitat and ecology: Fossorial, occurring in the top 25 cm of soil coinciding with deep leaf litter and high invertebrate densities (Measey et al. 2009; Bates 2018), and has been recorded in high densities in sand forest habitat (Pooley et al. 1973; Measey et al. 2009). *Habitat:* Savanna, Forest.

Threats: There has been a decline in habitat quality and extent in the southern part of the range, which might have some impact on this species.

Population trend: The extent of habitat transformation is small in relation to the large range of this species and part of the distribution is within a large, protected area. It is thus assumed that any local population declines do not pose a threat to this lizard.

Conservation and research recommendations: Improved sampling and a phylogenetic analysis that also includes other species in the genus would allow for an improved assessment of the current taxonomy in the group. Samples of *Z. vandami sensu lato* that were included in phylogenetic analyses did not refer to the subspecies involved (Measey & Tolley 2013; Broadley & Measey 2016) and based on distribution, these samples are assignable to *Z. arenicola*.



Zygaspis arenicola, St Lucia, KwaZulu-Natal province (© G.K. Nicolau).

Family Amphisbaenidae

Zygaspis quadrifrons (Peters, 1862)

Kalahari Dwarf Worm Lizard

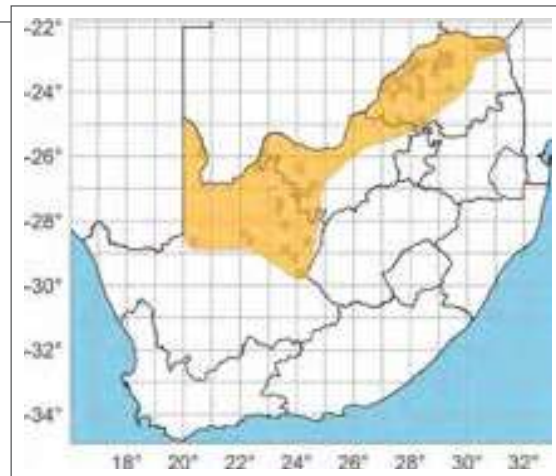
■ LC – Least Concern (Regional)

Assessor: Measey, J.

Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

2014: Least Concern (SARCA).

Assessment rationale: Widespread and common, not considered to be subject to any significant threats.**Taxonomic notes:** No taxonomic issues. *Other important names:* none.**Distribution:** This is the most widely distributed *Zygaspis* species, occurring from northern South Africa to southern Democratic Republic of the Congo (Broadley & Broadley 1997). In South Africa, it occurs in Limpopo province, the western parts of North West province and the northern half of the Northern Cape province. *EOO:* 525 000 km²; *Distribution:* 276 000 km².**Countries of occurrence:** Angola, Botswana, Democratic Republic of the Congo, Malawi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe.**Habitat and ecology:** Inhabits deep Kalahari sands as well as loamy or clayey soils from 250 to 1 200 m a.s.l.*Zygaspis quadrifrons*, Pafuri, Limpopo province (© R.E. Stander).(Jacobsen 1989). Usually occurs under stones or rotting logs, or underground (Jacobsen 1989). *Habitat:* Savanna.**Threats:** There are no substantial threats to this species.**Population trend:** The population size is assumed to be stable because this is a very widespread species, and large parts of the range are in areas that are not heavily impacted by habitat transformation.**Conservation and research recommendations:** No recommendations.*Zygaspis quadrifrons*, Witsand Nature Reserve, Northern Cape province (© L. Kemp).

Family Amphisbaenidae

Zygaspis vandami (FitzSimons, 1930)

Van Dam's Dwarf Worm Lizard

South African endemic

■ LC – Least Concern (Global)

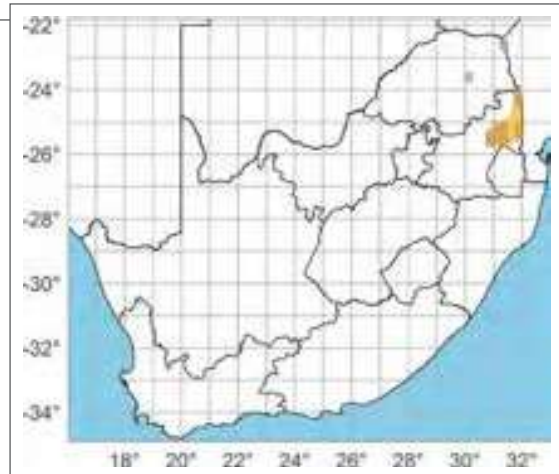
Assessors: Pietersen, D.W., Alexander, G.J., Tolley, K.A., Conradie, W., Weeber, J., Measey, J.

Previous Red List categories:

2021: Least Concern (Global IUCN assessment).

Assessment rationale: Although there is some decline in extent and quality of habitat, this is within a minor part of the distribution and this threat is not considered significant.

Taxonomic notes: The two subspecies, *Z. v. vandami* and *Z. v. arenicola* (Broadley & Broadley 1997) were referred to as separate species by Gans (2005). On the basis of differences in geographic range and ecology, as well as the morphological differences, Bates (2018) elevated *Z. arenicola* to a full species, and by this action, *Z. vandami* is now considered a monotypic species. Samples of '*Z. vandami*' included in phylogenetic analyses did not refer to subspecies (Measey & Tolley 2013; Broadley & Measey 2016) and based on distribution, these are assignable to



'Z. v. arenicola'. Therefore, analyses have not yet included both species. *Other important names:* *Zygaspis violacea*.

Distribution: Occurs in the lowlands and escarpment of northeastern South Africa (Jacobsen 1989; Broadley & Broadley 1997), with a record in the northern Kruger National Park that might be linked along the southern slopes of the Soutpansberg (Broadley & Broadley 1997), through Mozambique, or along the Lebombo Mountains. It might also extend marginally into Eswatini. There is another outlying record in Limpopo province to the northwest of the remainder

Zygaspis vandami, Mbombela, Mpumalanga province (© D.W. Pietersen).

Zygaspis vandami, Mbombela, Mpumalanga province (© M. Petford).



Family Amphisbaenidae

of the range (Jacobsen 1989; Broadley & Broadley 1997). Both these outlying records suggest this species might be more widespread throughout Limpopo province and possibly into Mozambique. These records have been included in the EOO estimate. *EOO*: 48 800 km²; *Distribution*: 11 600 km².

Country of occurrence: South Africa.

Habitat and ecology: This fossorial species is usually associated with rocky situations at elevations of 150–1 000 m a.s.l., where it shelters under stones on sandy or humus-rich soils (Jacobsen 1989; Broadley & Broadley 1997). *Habitat*: Savanna.

Threats: There has been some land transformation for agriculture, silviculture and housing developments, but these threats are not considered significant at present.

Population trend: Although some of the geographic range has been transformed, this species occurs in many areas that are not significantly impacted by habitat loss. Thus, the population size is suspected to be stable.

Conservation and research recommendations: Improved sampling and a phylogenetic analysis that includes other species in the genus would allow for a better assessment of the current taxonomy of the former subspecies. Samples of *Z. vandami sensu lato* that were included in phylogenetic analyses did not refer to the subspecies involved (Measey & Tolley 2013; Broadley & Measey 2016) and based on distribution, these samples are assignable to *Z. arenicola*. Confirmation of this species' range in Limpopo province and whether it might also occur in Eswatini and Mozambique is needed.