The Herpetological Bulletin 174, 2025: 31–33
SHORT COMMUNICATION

https://doi.org/10.33256/hb174.3133

Comments on historical records and the distribution of *Pedioplanis serodioi* in Angola and Namibia

DIOGO PARRINHA[1,2,3*], AARON M. BAUER[4] & LUIS M.P. CERÍACO[1,3,5]

[1]CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado, Campus de Vairão, Universidade do Porto, 4485-661 Vairão, Portugal
[2]Departamento de Biologia, Faculdade de Ciências da Universidade do Porto, Rua do Campo Alegre 1021, 4169-007 Porto, Portugal
[3]BIOPOLIS Program in Genomics, Biodiversity and Land Planning, CIBIO, Campus de Vairão, 4485-661, Vairão, Portugal
[4]Department of Biology and Center for Biodiversity and Ecosystem Stewardship, Villanova University, 800 Lancaster Avenue, Villanova, PA 19085, USA
[5]Departamento de Vertebrados, Museu Nacional, Universidade Federal do Rio de Janeiro, Quinta da Boa Vista, São Cristóvão, 20940-040 Rio de Janeiro, RJ, Brazil

[*]Corresponding author e-mail: dparrinha@cibio.up.pt

The lacertid genus *Pedioplanis* Fitzinger, 1843 is endemic to south-western Africa, being most diverse in Namibia and reaching its northern limit in western Angola (Childers et al., 2021; Parrinha et al., 2021). The genus has been the subject of recent taxonomic revisions that resulted in the descriptions of new species from south-western Angola and north-western Namibia (Conradie et al., 2012; Childers et al., 2021; Parrinha et al., 2021). Four species are known from Angola, none of which have been confirmed in neighbouring Namibia despite recent surveys. Likewise, no species of the currently known Namibian species of *Pedioplanis* have been recorded in Angola, leading to speculation regarding the potential role of the Cunene River as a barrier to the group (Childers et al., 2021; Parrinha et al., 2021).

Although some Namibian *Pedioplanis* taxa are commonly found on the Escarpment highlands (Childers et al., 2021; Bauer et al., 2023), records of Angolan species are mostly restricted to the arid coastal lowlands of Namibe and Benguela provinces (Conradie et al., 2012; Parrinha et al., 2021). Amongst the Angolan taxa, *Pedioplanis serodioi* is easily diagnosed based on dorsal colouration and the presence of a single transparent scale on the lower eyelid, and is the most widespread of Angolan *Pedioplanis*. Parrinha et al. (2021) recorded the species from several localities across the coastal lowlands of Benguela and Namibe provinces, and subsequent authors reported it from additional localities within the expected range of the species (Lobón-Rovira et al., 2022; 2025; Marques et al., 2024a; Fig. 1).

Based on material collected by William John Ansorge and deposited in the British Museum of Natural History (BMNH; currently Natural History Museum, London), Boulenger (1921) reported the species from Ponang Kuma (Dongoena) [-17.0500°, 14.6500°] in Cunene Province. Considering Boulenger's (1921) morphological description, Parrinha et al. (2021) regarded the record as valid, representing the easternmost record of the species and that from the highest elevation, at around 1,122 m above sea level (a.s.l.). This observation was validated by subsequent examination of

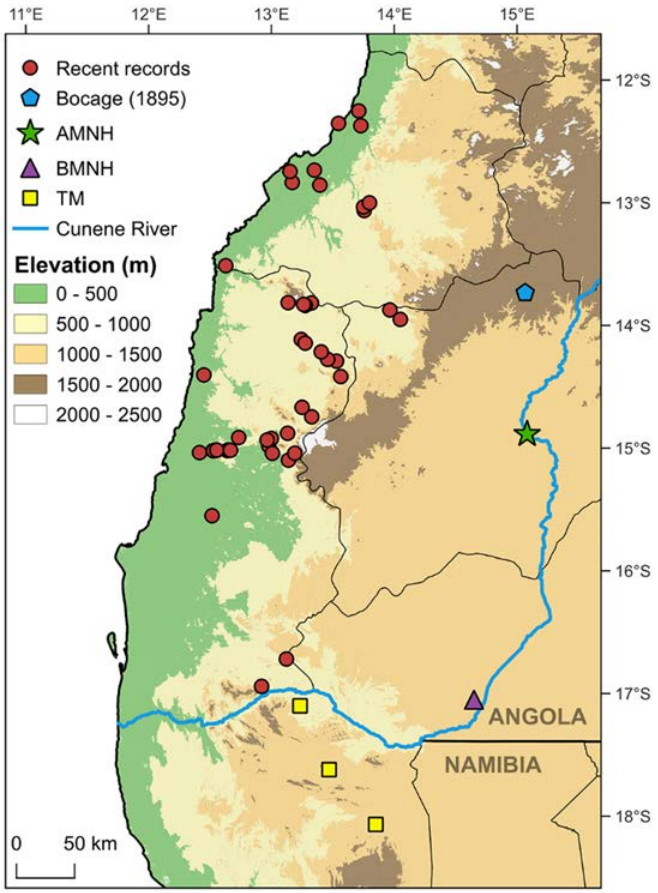

Figure 1. Map of south-western Angola and adjacent north-western Namibia with recent records of *Pedioplanis serodioi* (data from Parrinha et al., 2021; Lobón-Rovira et al., 2022; 2025; Marques et al., 2024a) and putative historical records mentioned in this paper (AMNH – American Museum of Natural History; BMNH – British Museum, Natural History; TM – Transvaal Museum)

Figure 2. Specimen of *Pedioplanis serodioi* collected by the Vernay Angola Expedition at Capelongo, Huíla Province (AMNH 47026)

the specimens (BMNH 1907.6.29.12–17), which are slightly desiccated but agree with the description of *P. serodioi* (pers. obs.). Parrinha et al. (2021) also noted an historical record from Caconda [-13.7333°, 15.0667°] at about 1,675 m a.s.l. in Huíla Province, collected by José d'Anchieta and published by Bocage (1895), but considered it to be dubious, likely representing a case of mislabeling. Parrinha et al. (2021) argued that the currently known distribution of the genus in the country suggested its absence from the high elevation areas of the Angolan Escarpment and Plateau, where Caconda is located. The loss of the specimen examined by Bocage (1895) in the fire that destroyed the collections of Museu Bocage in 1978 precluded the confirmation of this record.

At the time of publication of Parrinha et al.'s (2021) revision, a series of *Pedioplanis* specimens collected during the Vernay Angola Expedition in 1925 remained deposited in the collections of the American Museum of Natural History, New York (AMNH) awaiting critical revision. A recent visit to the AMNH allowed us to examine this material, noting the presence of a specimen collected in Capelongo [-14.8850°, 15.0823°], in the highlands of Huíla Province near the margins of the Cunene River and the borders of Bicuar National Park (AMNH 47026; Fig 2). Although this specimen differs slightly from typical *P. serodioi* in dorsal colour pattern (Fig. 2), with solid dark dorsolateral stripes (versus typically interrupted and poorly defined stripes), all other morphological characters fit within the variation described for the species (Parrinha et al., 2021). Most notably, the specimen has a single transparent scale on the lower eyelid, the main diagnostic character for *P. serodioi* and otherwise known only from *Pedioplanis gaerdesi* (Mertens, 1954), thus supporting the presence of the species in the Angolan Central Plateau and providing plausibility to Bocage's (1895) record from Caconda. The presence of the species in the Angolan highlands suggests that it is a generalist and highly adaptable *Pedioplanis*, occurring from the coastal desert and arid savannas of the Angolan lowlands to the more mesic savannas and woodlands of the plateau, from sea level to more than 1,600 m a.s.l. (Huntley, 2023).

Previous authors had already mentioned the existence of Namibian specimens that morphologically conform to *P. serodioi* in the collections of the Ditsong National Museum of Natural History (TM, formerly Transvaal Museum, Pretoria) (Conradie et al., 2012; Parrinha et al., 2021). These specimens were collected in 1970 at Otjivakuanda [-17.1000°, 13.2333°], Opuwo [-18.0667°, 13.8500°] and Otjivise [-17.6200°, 13.4700°], all located above 1,000 m a.s.l in the Kunene Region, north-western Namibia (Fig. 1), but are yet to be corroborated by molecular data. Even though the surviving historical specimens in the collections of the AMNH, BMNH and TM fit the diagnosis of *P. serodioi*, no modern material has confirmed the presence of the species in Namibia or the Angolan Plateau, despite extensive surveys in these regions, including Caconda and Bicuar National Park (Baptista et al., 2019; Butler et al., 2019; Childers et al., 2021).

The distribution of confirmed and historical records of *P. serodioi* is identical to that of *Nucras broadleyi* Branch, Conradie, Vaz Pinto & Tolley, 2019, another recently described lacertid from south-western Angola (Branch et al., 2019). While historical records of *N. broadleyi* from the Angolan Plateau also lack molecular validation, recent material collected in north-western Namibia showed significant sequence divergence and differences in colouration (Bauer et al., 2020). If the putative historical records of *P. serodioi* discussed here are validated by molecular data, one can assume that, despite its broad geographic range and ecological plasticity, the species' occurrence in the highlands of Angola and Namibia is rare, in contrast to its common presence in the arid coastal lowlands of south-western Angola. On the other hand, recent works have found divergent lineages in the lowlands and highlands of Angola across several lizard groups, as are the cases of the genera *Cordylus* (Stanley et al., 2016; Marques et al., 2019; Bates et al., 2023), *Rhoptropus* (Parrinha et al., 2025) and *Panaspis* (Ceríaco et al., 2020; Marques et al., 2024b). Distinct lineages separated by the Cunene River have also been observed in the genera *Pedioplanis* and *Nucras* (Childers et al., 2021; Parrinha et al., 2021; Branch et al., 2019; Bauer et al., 2020), highlighting the critical need for new material from the highlands of Angola and Namibia to verify the presence of *P. serodioi* and assess its genetic structure. Meanwhile, the extent of occurrence of the species is more than doubled when historical records are considered, and their inclusion (or exclusion) from formal conservation planning and management must be considered.

ACKNOWLEDGEMENTS

DP is currently supported by Fundação para a Ciência e Tecnologia (FCT) (Grant 2021.05238.BD). AMB is supported by the National Science Foundation of the United States (Grant DEB 2146654). DP and LMPC are members of the NATHIST - Natural History, Collections & Taxonomy research group at CIBIO-InBIO, which provided institutional support for this study. We thank Lauren Vonnahme (AMNH) and Jeffrey Streicher (BMNH) for facilitating access to the collections at their care. The late Bill Branch is thanked for sharing photos of specimens preserved in TM collections.

REFERENCES

Baptista, N.L., António, T. & Branch, W.R. (2019). The herpetofauna of Bicuar National Park and surroundings, southwestern Angola: a preliminary checklist. *Amphibian & Reptile Conservation* 13(2): 96–130.

Bates, M.F., Lobón-Rovira, J., Stanley, E.L., Branch, W.R. & Vaz Pinto, P. (2023). A new species of green-eyed *Cordylus* Laurenti, 1768 from the west-central highlands of Angola, and the rediscovery of *Cordylus angolensis* (Bocage, 1895) (Squamata: Cordylidae). *Vertebrate Zoology* 73: 599–646.

Bauer, A.M., Murdoch, M. & Childers, J.L. (2020). A reevaluation of records of Sandveld lizards, *Nucras* Gray, 1838 (Squamata: Lacertidae), from northern Namibia. *Amphibian & Reptile Conservation* 14(3): 231–250.

Bauer, A.M., Ceríaco, L.M.P., Marques, M.P. & Becker, F.S. (2023). Highland reptiles of Angola and Namibia. In: *Monograph on Endemism in the Highlands and Escarpments of Angola and Namibia*. 259–276 pp. Mendelsohn, J., Huntley, B.J. & Vaz Pinto, P. (Eds.). Namibian Journal of Environment 8.

Bocage, J.V.B. (1895). *Herpétologie d'Angola et du Congo*. Lisbonne: Ministério da Marinha e das Colónias. 203 pp. + 20 pls.

Boulenger, G.A. (1921). *Monograph of the Lacertidae. Vol. 2*. London: Trustees of the British Museum (Natural History). viii + 451 pp.

Branch, W.R., Conradie, W., Vaz Pinto, P. & Tolley, K.A. (2019). Another Angolan Namib endemic species: a new *Nucras* Gray, 1838 (Squamata: Lacertidae) from south-western Angola. *Amphibian & Reptile Conservation* 13(2): 82–95.

Butler, B.O., Ceríaco, L.M.P., Marques, M.P., Bandeira, S., Júlio, T., Heinicke, M.P. & Bauer, A.M. (2019). Herpetological survey of Huíla Province, southwest Angola, including first records from Bicuar National Park. *Herpetological Review* 50(2): 225–240.

Childers, J.L., Kirchhof, S. & Bauer, A.M. (2021). Lizards of a different stripe: phylogenetics of the *Pedioplanis undata* species complex (Squamata, Lacertidae), with the description of two new species. *Zoosystematics & Evolution* 97(1): 249–272.

Ceríaco, L.M.P., Heinicke, M.P., Parker, K.L., Marques, M.P. & Bauer, A.M. (2020). A review of the African snake-eyed skinks (Scincidae: *Panaspis*) from Angola, with the description of a new species. *Zootaxa* 4747(1): 77–112.

Conradie, W., Measey, G.J., Branch, W.R. & Tolley, K.A. (2012). Revised phylogeny of African sand lizards (*Pedioplanis*), with the description of two new species from southwestern Angola. *African Journal of Herpetology* 61(2): 91–112.

Huntley, B.J. (2023). *Ecology of Angola: Terrestrial Biomes and Ecoregions*. Cham: Springer. 460 pp.

Lobón-Rovira, J., Vaz Pinto, P., Becker, F.S., Tolley, K.A., Measey, J., Bennet, B., Boon, B., de Sá, S. & Conradie, W. (2022). An updated herpetofaunal species inventory of Iona National Park in southwestern Angola. *Check List* 18(2): 289–321.

Lobón-Rovira, J., Sierra, P., Portas, R., Vaz Pinto, P. & Martínez-Freiría, F. (2025). Noteworthy herpetological notes from Namibe Province, Angola. *Herpetology Notes* 18: 99–105.

Marques, M.P., Ceríaco, L.M.P., Stanley, E.L., Bandeira, S.A., Agarwal, I. & Bauer, A.M. (2019). A new species of Girdled lizard (Squamata: Cordylidae) from the Serra da Neve Inselberg, Namibe Province, southwestern Angola. *Zootaxa* 4668(4): 503–524.

Marques, M.P., Parrinha, D., Lopes-Lima, M., Tiutenko, A., Bauer, A.M. & Ceríaco, L.M.P. (2024a). An island in a sea of sand: a first checklist of the herpetofauna of the Serra da Neve inselberg, southwestern Angola. *ZooKeys* 1201: 167–217.

Marques, M.P., Parrinha, D., Lopes-Lima, M., Tiutenko, A., Bauer, A.M. & Ceríaco, L.M.P. (2024b). A treasure trove of endemics: two new species of snake-eyed skinks of the genus *Panaspis* Cope, 1868 (Squamata, Scincidae) from the Serra da Neve Inselberg, southwestern Angola. *Evolutionary Systematics* 8: 167–182.

Parrinha, D., Marques, M.P., Heinicke, M.P., Khalid, F., Parker, K.L., Tolley, K.A., Childers, J.L., Conradie, W., Bauer, A.M. & Ceríaco, L.M.P. (2021). A revision of Angolan species in the genus *Pedioplanis* Fitzinger (Squamata: Lacertidae), with the description of a new species. *Zootaxa* 5032(1): 1–46.

Parrinha, D., Marques, M.P., Tiutenko, A., Heinicke, M.P., Bauer, A.M. & Ceríaco, L.M.P. (2025). A new species of Namib day gecko (Gekkonidae: *Rhoptropus* Peters, 1869) from the Serra da Neve inselberg, southwestern Angola. *Zootaxa* 5569(3): 439–458.

Stanley, E.L., Ceríaco, L.M.P., Bandeira, S.A., Valerio, H., Bates, M.F. & Branch, W.R. (2016). A review of *Cordylus machadoi* (Squamata: Cordylidae) in southwestern Angola, with the description of a new species from the Pro-Namib desert. *Zootaxa* 4061(3): 201–226.

Accepted: 21 March 2025