

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Eighteenth meeting of the Conference of the Parties
Colombo (Sri Lanka), 23 May – 3 June 2019

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Inclusion of *Paroedura androyensis* in Appendix II, in accordance with Article II, paragraph 2 (a) of the Convention and satisfying criterion B in Annex 2a of Resolution Conf. 9.24 (Rev. CoP16).

B. Proponent

Party name*: Madagascar and the European Union

C. Supporting statement1. Taxonomy

1.1 Class: Reptilia

1.2 Order: Squamata

1.3 Family: Gekkonidae

1.4 Genus, species or subspecies, including author and year: *Paroedura androyensis* (Grandidier, 1867)

1.5 Scientific synonyms: *Phyllodactylus androyensis* (Grandidier, 1867)

1.6 Common names: English: Grandidier's Madagascar Ground Gecko

1.7 Code numbers:

2. Overview

Paroedura androyensis is collected in the wild to supply the international pet trade, with trade levels increasing, possibly as the species becomes more popular amongst hobbyists. It is classified as 'Vulnerable' in the IUCN Red List of Threatened Species based on a limited extent of occurrence (17,970 km²), a severely fragmented population, and a continuing decline in the quality and extent of its habitat.

The species is rare with a declining population trend, and may be affected by trade according to the definition in Annex 5 ii). Regulation of trade is necessary in order to ensure that the harvest of specimens does not reduce the wild population to a level at which its survival might be threatened by continued harvest or other influences. It therefore qualifies for inclusion in Appendix II by satisfying criterion B in Annex 2a of Resolution Conf. 9.24 (Rev. CoP17).

* The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

3. Species characteristics

3.1 Distribution

Paroedura androyensis is regionally endemic to southern (D’Cruze *et al.*, 2009), south-western (Raselimanana *et al.*, 2012) and south-eastern (Welch, 1982) Madagascar (Figure 1). It occurs in scattered locations, including: Andrahomana, Cap Sainte Marie, Isaka-Ivondro, Miary, Sarodrano, Tolagnaro, Tsivanoa, Zombitse Forest (Glaw and Vences, 2007), Malahelo, Petriky, (Ramanamanjato *et al.*, 2002; Glaw and Vences, 2007), Isalo (Hawkins, 1994, in: Rakotondravony and Goodman, 2011), Salary-Bekodoy (Raselimanana *et al.*, 2012), Andohahela (Nussbaum *et al.*, 1999), and the Ifotaka North Protected Area (Theisinger and Ratianarivo, 2015). The species was reported to be severely fragmented over its range, with an estimated extent of occurrence of 17,970 km² (Rabibisoa *et al.*, 2011).



Figure 1: Distribution of *Paroedura androyensis* (in orange) (Madagasikara Voakajy, 2011)

3.2 Habitat

Paroedura androyensis has been observed at altitudes of 40 to 80 m above sea level (D’Cruze *et al.*, 2009) in dry forests, on dry coastal rocks (Glaw and Vences, 2007), in transitional, littoral and spiny forests (Ramanamanjato *et al.*, 2002), gallery forests (D’Cruze and Sabel, 2005), shrub land (Nopper *et al.*, 2018), and in riparian habitats. The species has not been found in heavily disturbed forest (Rabibisoa *et al.*, 2011), and reportedly disappears after initial habitat modification (Theisinger and Ratianarivo, 2015). It was not reported to occur within forest edges during surveys of Malahelo (Ramanamanjato *et al.*, 2002) nor at other nearby sites of Petriky (Ganzhorn, 1998, in: Ramanamanjato *et al.*, 2002) and Andohahela (Nussbaum *et al.*, 1999, in: Ramanamanjato *et al.*, 2002).

Paroedura androyensis was recorded from spiny forest at an elevation of 120 m above sea level at a site 7.5 km northeast of Hazofotsy in central-southern Madagascar in 1995 (Nussbaum *et al.*, 1999).

3.3 Biological characteristics

Paroedura androyensis is a nocturnal species (Raselimanana, 2008) which has been described as both arboreal (D’Cruze and Sabel, 2005) and as being “mainly active on the ground” (Rabibisoa *et al.*, 2011). It is oviparous (Uetz *et al.*, 2018), and species of this genus usually produce a clutch of two eggs, which are buried in the ground (Glaw and Vences, 2007). Feeding advice on a hobbyist website suggests that the species’ diet consists of insects, mealworms and crickets (Boyd, 2018).

3.4 Morphological characteristics

Paroedura androyensis is a relatively small gecko, reaching a maximum snout-vent length of 47 mm (Glaw and Vences, 2007). It has a beige to dark brown dorsal body, moderately large dorsal tubercles (making it moderately rough-skinned), and four beige markings from the neck to the pelvis, which do not extend ventrally (Glaw and Vences, 2007). The species has whitish lips with dark stripes, a white throat with a reticulated grey network, and a round, broad and short tail up to 80 mm long (Glaw and Vences, 2007). Juveniles have a beige head, a blackish body, and a tail with orange and dark bands (Glaw and Vences, 2007).

3.5 Role of the species in its ecosystem

No specific studies have been conducted concerning the role of *Paroedura androyensis* in its ecosystem.

4. Status and trends

4.1 Habitat trends

A national reduction of just over 16% of “tree cover with >30% canopy cover” in Madagascar from 2001 to 2016 was reported, with a higher regional reduction of >18% in the Toliary region in southern Madagascar (Hanson *et al.*, 2013).

4.2 Population size

No information was found concerning the population size of *Paroedura androyensis*. Studies are needed to determine the population size of the species in the wild.

4.3 Population structure

No information was found concerning the species’ population structure.

4.4 Population trends

Paroedura androyensis was described as “rare” (D’Cruze and Sabel, 2005; Rabibisoa *et al.*, 2011) with a decreasing population trend (Rabibisoa *et al.*, 2011). Its relative abundance was found to be “infrequent” in a survey of Belomotse Forest in the Lower Onilahy River Valley Temporary Protected Area in southwest Madagascar in 2002 (D’Cruze *et al.*, 2009). The species was assessed as Vulnerable in the IUCN Red List in 2011 on the basis of its extent of occurrence of 17,970 km², severely fragmented population, and a continuing decline in the extent and quality of its habitat (Rabibisoa *et al.*, 2011).

4.5 Geographic trends

The dry forest habitat of *Paroedura androyensis* was reported to be patchy and in decline (Rabibisoa *et al.*, 2011).

5. Threats

Paroedura androyensis is confined to intact forests, which are at risk from timber extraction for charcoal production and land clearance for slash and burn agriculture, both of which are ongoing throughout the species’ range (D’Cruze *et al.*, 2009; Rabibisoa *et al.*, 2011).

6. Utilization and trade

6.1 National utilization

6.2 Legal trade

Whilst the 2011 IUCN Red List assessment noted that the species “is not utilised or traded” (Rabibisoa *et al.*, 2011), evidence of trade in *Paroedura androyensis* in the EU was identified through an internet survey of non-CITES reptiles in 2009 (UNEP-WCMC, 2009), with the species being listed on a range of online pet-trade websites in at least six EU Member States¹.

Madagascar reported exports of 6392 individuals of the species in the five years 2013-2017, with international trade increasing to over 1000 specimens annually since 2015 (Table 1). The reported destinations of these exports were (in alphabetical order): Canada, Czech Republic, France Germany, Hong Kong, Hungary, Japan, Malaysia, Netherlands, Russian Federation, Spain, Taiwan and USA.

Table 1. Exports of *Paroedura androyensis* from Madagascar 2013-2017.

2013	2014	2015	2016	2017	Total
12	359	1570	2880	1571	6392

According to the Law Enforcement Management Information System (LEMIS) database, managed by the United States Fish and Wildlife Service, imports of wild-caught *Paroedura androyensis* to the United States of America (US) increased over the 10 years 2009-2018, with imports peaking in 2018 (Figure 2). Low levels of captive-bred specimens were reportedly imported from Madagascar to the US during the same period, although captive breeding facilities for this species do not exist in Madagascar.

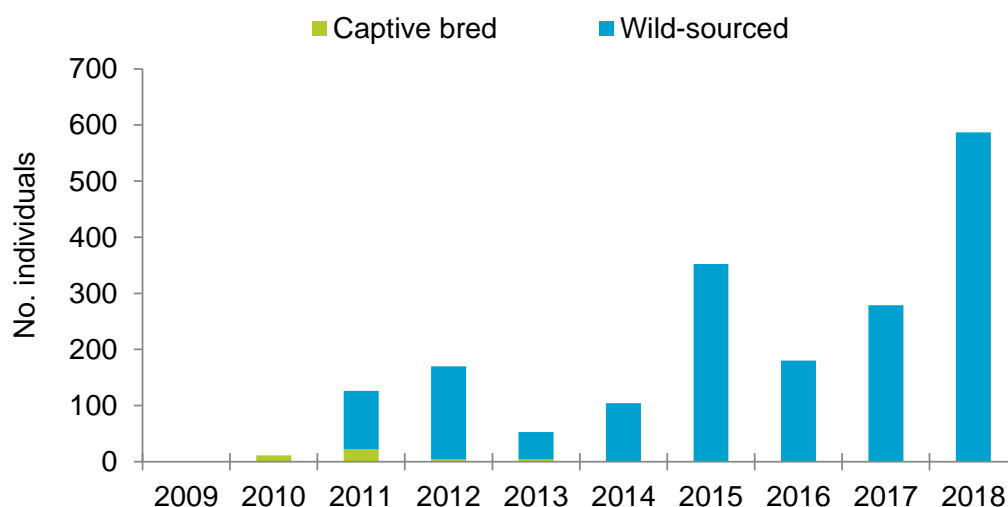


Figure 2: Direct imports of *Paroedura androyensis* from Madagascar to the United States of America from 2009 to 2018 (2018 data complete to 13 December 2018). Source: LEMIS database, USFWS, United States. Provided to UNEP-WCMC on 28 February 2018 and 13 December 2018.

Several websites in the EU priced an individual of this species at around EUR 30 in 2018. One online pet-trade website (www.dwarfgeckos.com) noted that *Paroedura androyensis* was not easily obtained, and that captive-bred specimens of this species were rare.

¹ <http://www.dwarfgeckos.com>; <http://terrarium.com>; <http://www.italiangekko.net>; <http://www.faunaexotica.net>; <http://www.reptilia.nl>; <http://www.reptileforums.co.uk> [Accessed April 2018].

The species is known to be collected in the south west region in the following places: Tulear II, Belalanda, Ankililoaka, Fiherenana, Antsoanabo, Mihary, Saint Augustin, Sept Lacs, and Mangily. Many of these collecting sites are located in proposed or newly created protected areas (Nouvelles Aires Protégées) (Raxworthy, pers. comm. to UNEP-WCMC, 2018). Samples of the species from the pet trade were found in the Toliara region, but the original location of collection of these specimens was unknown (Aprea *et al.*, 2013).

The species was included in a list of commercially traded exotic amphibian and reptile species in Texas in the United States 2002-2008, in which it was reported to be wild-sourced and exported [presumably re-exported] from the United States (Prestridge, 2009).

6.3 Parts and derivatives in trade

Paroedura androyensis has been reported in international trade as live specimens.

6.4 Illegal trade

There have been no reported illegal exports from Madagascar.

6.5 Actual or potential effects of trade

Based on discussions with a local guide and hunters in Belalanda, southwest Madagascar, where many reptiles are collected for trade, it was reported that up to 1000 specimens of *Paroedura androyensis* may be collected annually, and it was considered that this level of harvest might pose a threat to the species (Andriantsimanarilafy, pers. comm. to UNEP-WCMC, 2018).

7. Legal instruments

7.1 National

Paroedura androyensis is classified as a category III species under Madagascar Law 2006-400 on the classification of wildlife species (Government of Madagascar, 2006; PC20 Inf. 11 A4). Category III includes game species for which hunting and capture are only permitted with a hunting license and within the hunting season, from 1st February to 30th April (Government of Madagascar, 2006; PC20 Inf. 11 A4).

Madagascan law 2005-018 on the international trade of species of wild fauna and flora monitors and manages the country's wildlife trade with species listed Appendices I, II, and III which follow those of the Convention, and Appendix IV which includes non CITES-listed species whose international trade is subject to national regulation and ensures Madagascar's compliance with CITES (Government of Madagascar, 2005). The export of a species included in Appendices I, II, or III requires a formal export permit, whereas the export of a species in Appendix IV requires a less formal "leaving authorisation" (Government of Madagascar, 2005).

7.2 International

8. Species management

8.1 Management measures

Rabibisoa *et al.* (2011) reported that no species-specific conservation measures were in place.

8.2 Population monitoring

No population monitoring has taken place.

8.3 Control measures

8.3.1 International

No specific international control measures are in place.

8.3.2 Domestic

8.4 Captive breeding and artificial propagation

There were reported to be international breeding stocks of *Paroedura androyensis* in captivity (Jenkins *et al.*, 2014). Some hobbyist websites² provide information on the breeding of the species, including that females lay clutches of two eggs every three to four weeks and that eggs should be removed and incubated at 25-30°C for 65-90 days. There are no captive breeding facilities within Madagascar.

8.5 Habitat conservation

Paroedura androyensis was reported to occur in three protected areas in Madagascar, at both coastal and inland sites (Rabibisoa *et al.*, 2011). The species has been observed in the Ifotaka North Protected Area in the southeast of the country (Theisinger and Ratianarivo, 2015), in the Berenty Reserve in southern Madagascar (Crowley, 1995, in: Ichino *et al.*, 2018) and in the Lower Onilahy River Valley Temporary Protected Site (D'Cruze *et al.* 2009). The IUCN Red List assessment in 2011 stated that more research was necessary to establish the species' area of occupancy, tolerance to habitat disturbance, population trends, and ecology; and recommended protection of other areas of forest where the species is known to occur (Rabibisoa *et al.*, 2011). Rabibisoa *et al.* (2011) suggested that protection of additional areas of forest where this species is known to occur is required in order to ensure its continued persistence.

8.6 Safeguards

9. Information on similar species

There are currently 18 species of the genus *Paroedura* (Glaw *et al.*, 2014).

Paroedura vahiny is described as similar in appearance to *Paroedura androyensis*, but has small dorsal tubercles, and is therefore smooth-skinned (Vences *et al.*, 2003; Glaw and Vences, 2007).

10. Consultations

11. Additional remarks

12. References

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² e.g. http://www.dwarfgeckos.com/other_dwarf/p_a/paroedura_androyensis.php;
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