



Erymnochelys madagascariensis

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Taxonomy:

Kingdom ANIMALIA Phylum CHORDATA
Class REPTILIA Order TESTUDINES
Family TESTUDINIDAE
Scientific Name: *Erymnochelys madagascariensis*
Species Authority: (Grandidier, 1867)
Common Name/s:
English – Madagascar Big-headed Turtle, Madagascar Sideneck Turtle
French – Podocnévide De Madagascar

Synonym/s:

Dumerilia madagascariensis Grandidier, 1867
Podocnemis madagascariensis subspecies *bifilaris* Boettger, 1893
Podocnemis madagascariensis (Grandidier, 1867)

Taxonomic Notes:

Historically placed in *Podocnemis*. No subspecies are currently recognized.

Assessment Information:

Red List Category & Criteria:
Critically Endangered A4d ver 3.1
Year Published: 2008
Date Assessed: 2008-01-15
Assessor/s: Leuteritz, T., Kuchling, G., Garcia, G. & Veloso, J. (Madagascar Tortoise and Freshwater Turtle Red List Workshop)
Reviewer/s: Rhodin, A. & Mittermeier, R.A. (IUCN SSC Tortoise & Turtle Freshwater Turtle Red List Authority)

Justification:

Overall, the species is in widespread serious decline (affecting both genetic forms equally), which was estimated as 80% over the past 75 years (three generations) and projected to continue as a further 80% decline in the next 75 years (CBSG 2001). The 2001 CAMP workshop evaluated the species as Critically Endangered under criterion A4d (CBSG 2001).

History:

1996 – Endangered
1994 – Indeterminate (Groombridge 1994)
1990 – Indeterminate (IUCN 1990)
1988 – Indeterminate (IUCN Conservation Monitoring Centre 1988)
1986 – Indeterminate (IUCN Conservation Monitoring Centre 1986)

Geographic Range:

Range Description: *Erymnochelys madagascariensis* is endemic to the western lowland river basins of Madagascar from the Mangoky River in the south to the Sambirano region in the North (Iverson 1992, Glaw and Vences 1994, CBSG 2001, Pedrono 2008). The species ranges up to about 500 m altitude (Pedrono 2008). Two genetically distinct forms have been noted. It is sympatric with *Pelomedusa subrufa* and *Pelusios castanoides*.

The species' extent of occurrence was estimated at the 2001 Conservation Assessment and Management Plan (CAMP) workshop as over 20,000 sq. km, with an area of occupancy of less than 500 sq. km. (CBSG 2001).

Countries: Native: Madagascar

Range Map: See Figure.

Population:

The best available information in 2001 generated an estimate of at least 10,000 animals making up some 20 subpopulations (CBSG 2001). Individual populations comprise tens to a few hundred animals based on mark-recapture studies (Garcia 2006). The species is universally reported to be in widespread serious non-cyclical decline (CBSG 2001).

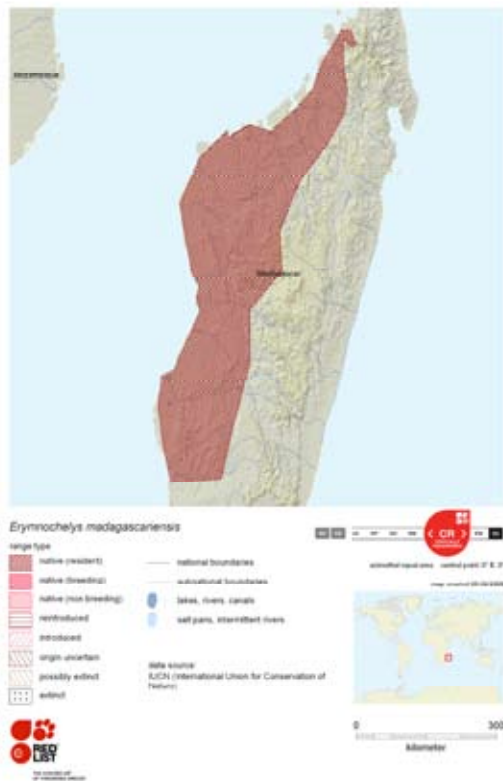
Population Trend: Decreasing.

Habitat and Ecology:

Erymnochelys habitat consists of slow-moving rivers, lakes, and swamps. Its preferred habitat is that of permanent open wetlands (CBSG 2001) and favours basking sites like rocks, logs, etc. (Kuchling and Garcia 2003). Garcia (1999, 2006) and Garcia and Lourenco (2007) carried out on fecal and stomach content analyses and found that juveniles feed primarily on aquatic invertebrates and adults feed on molluscs, plant material (leaves, seeds and fruit), and dead animals.

This turtle has a carapace length of 50 cm or more (Garcia 1999, 2006). Females are sexually mature at carapace lengths of 25-30 cm (Kuchling 1988). The sex ratio in various populations varies from 1:2 to 1.7:1 (Kuchling 1988, Garcia 2006). Age at maturity and longevity are not known, but a generation time of 25 years was estimated at the 2001 CAMP workshop (CBSG 2001).

These turtles nest between September and January (most prevalent October-December) and appear to have a biennial ovarian cycle, with individual females only nesting in



alternate years. They can lay up to two or three clutches with an average of 13 eggs (range 6–29) in a reproductive season (Kuchling 1988, 1993a and b; Garcia 2006; Pedrono 2008).

Systems: Terrestrial; Freshwater.

Major Threat(s):

Erymnochelys turtles are exploited for food at the local subsistence level and also taken as incidental catch in regular fishing (Kuchling 1993a, 1997; Kuchling and Mittermeier 1993; CBSG 2001; Garcia and Goodman 2003).

The habitat is fragmented by agricultural and deforestation practices. Siltation is a problem because of the conversion of lakes to rice fields (CBSG 2001). No information is available on the predicted impacts of hydrological changes to Madagascar's rivers in the context of agricultural development, infrastructure development (dams/reservoirs) and climate change. Most populations occur outside protected areas, and even those inside protected areas are under exploitation pressure (Garcia and Goodman 2003).

Conservation Actions:

Erymnochelys has been listed in CITES Appendix II since 1978 (UNEP-WCMC 2007) and is fully protected by Malagasy Law (Kuchling 1993a, 1997; Kuchling and Mittermeier 1993). Most major populations of *Erymnochelys madagascariensis* occur outside protected areas. Most of the small populations inside protected areas (PN Ankarafantsika 65,520 ha, PN Baie de Baly, RNI Be-

maraha 152,000 ha) are also under exploitation pressure and declining or depleted or locally extirpated (CBSG 2001).

Durrell Wildlife Conservation Trust and Conservation International have been working collaboratively on a conservation strategy for this species since 1997/98. This includes population field studies, captive breeding, and community education (Garcia 1999, 2006; Kuchling 2000; Kuchling and Garcia 2003).

Kuchling (1997) suggested three conservation actions: an education campaign for fishermen, a captive breeding programme, and the establishment of additional protected areas. Recommendations from the 2001 CAMP workshop suggest additional measures which include enforcing protection for the species in protected areas and recovery management of depleted protected populations, establishment of monitoring and recovery strategies for the populations at Manambolomaty (a Ramsar site with the largest and most important *Erymnochelys* population), and public education range-wide (CBSG 2001).

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