

Radiated Tortoises Found on the Protected Island of Nosy Ve, Southwest Madagascar.

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The Madagascar radiated tortoise, *Geochelone radiata*, is threatened with extinction due to collection for the food and pet trade (Behler, 2002) and habitat destruction (Seddon *et al.*, 2000). It was therefore encouraging when field operatives from Frontier-Madagascar (a collaboration between the United Kingdom based NGO The Society for Environmental Exploration and the Institute of Marine Sciences, Toliara, Madagascar) discovered specimens on the small island of Nosy Ve.

This approximately 30 ha island is about 5km from the mainland in the Anakao region south of Toliara (S23°38'57" and E 043°36'15"; WGS 84 Projection). The island is considered sacred due to its historic function as a burial site and is protected by *fady* (local taboo) against any kind of human disturbance. The *fady* is incorporated in a legally respected, local community convention called a *dina* that fully protects a small (approximately 4 ha.) fringing patch reef next to the island and all of Nosy Ve. The island is managed by a local village based organization of fishermen and local delegates called *Fikambanana Miaro sy Mampandroso an' l Nosy Ve* (FI.MI.MA.NO). Due to the cultural significance of the island and the peoples respect for the *dina*, Nosy Ve has been a success as a protected area.

Unpublished data from Frontier-Madagascar suggests the animals have been present since at least 2001, however for this survey, the animals were first recorded during a mapping survey of Nosy Ve in October 2002. They were then specifically searched for during monthly visits and were regularly re-sighted over the next six months. A total of four male tortoises were found, aged approximately 15, 24, 25 and 27 years from the growth rings on their scutes. They appeared to be healthy and the habitat and vegetation were similar to that of the mainland where *G. radiata* is present.

After talking to the locals, the authors believe these tortoises were brought to the island in one of two ways. First, a hotel operator from Ambola (75 km south of Nosy Ve) who saw that the animals were threatened by collection on the mainland may have brought some to the island for protection. Second, the *Nahoda* (village elder charged with ceremonial duties) of Anakao said that around two years ago, a large pirogue (canoe) belonging to poachers overturned near Nosy Ve while returning from a collecting trip to the south. He believes that their canoe contained a large number of *G. radiata* and that some may have floated to the island.

The population that is now resident on the island appears to be small and confined primarily to a small patch of euphorbia forest and scrub on the south side of the island. Only once was an individual spotted on the southeast part of the island. It is quite possible that this very small population of *G. radiata* represents one of the best-protected wild colonies of this species in the world. Mainland population densities of the species are unknown, but evidence suggests hunting pressures by local populations and organized gangs even in Tsimanampetsotsa National Park (Behler, 2002) are having drastic effects on the survival status of the species.

Captive breeding programs have shown great promise for *G. radiata*, with good numbers being successfully captive bred and reared (Behler and Iaderosa 1991). With its protected status Nosy Ve might offer some value as a breeding colony for re-introduction to the wild. First, due to the *dina* and *fady* permission would have to be granted that would allow the captive bred offspring to be removed from the island. The lack of females could be addressed by introduction of wild caught animals or from other breeding colonies. Perhaps the island could be used for location of repatriated animals such as the 165 taken to Berenty from

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Reunion in 1994 (Boullay, 1995). Obviously any new tortoises released must go through a rigorous veterinary inspection to insure the health of the resident males. The island is already home to Madagascar's only red-tailed tropicbird colony. If a large population of tortoises were to be established, they would need to be monitored to ensure that they did not compete with these ground-nesting birds for suitable shaded areas.

Nosy Ve has potential for the conservation of radiated tortoises. Further investigative work on the possible impacts of introducing more tortoises needs to be conducted.

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