

Review of *Manouria impressa* from Lao People's Democratic Republic

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Executive summary

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This review has been prepared to support the SRG in assessing trade in *Manouria impressa* from the Lao People's Democratic Republic (hereafter referred to as Lao PDR). In 2013, a negative opinion was formed for trade in wild-sourced specimens from Lao PDR. A review of the species from Lao PDR by UNEP-WCMC was requested at the same time.

This document compiles information on reported CITES trade together with information on the conservation status of the species globally and in Lao PDR.

REPTILIA: TESTUDINIDAE

Manouria impressa II/B

SYNONYMS:	<i>Geochelone impressa</i> , <i>Geoemyda impressa</i> , <i>Geoemyda latinuchalis</i> , <i>Testudo impressa</i> , <i>Testudo pseudemys</i>
COMMON NAMES:	Impressed tortoise (English), Tortue imprimée (French), Tortuga marrón de Burma (Spanish)
RANGE STATES:	Cambodia, China, Lao People's Democratic Republic, Malaysia, Myanmar, Thailand, Vietnam
UNDER REVIEW:	Lao People's Democratic Republic
EU DECISIONS:	<p>Current negative opinion for wild specimens from Lao PDR formed on 20/12/2013. Previous no opinion (iii) for wild specimens from Lao PDR formed on 01/07/2004 and removed on 20/12/2013. Previous Article 4.6(b) import restriction for wild specimens from Lao PDR first applied on 22/12/1997, and previous Article 4.6(c) import restriction for live wild specimens first applied on 19/09/1999, both removed on 10/05/2006.</p> <p>Current no opinion (iii) for wild specimens from Cambodia, China, Malaysia, Myanmar and Thailand formed on 01/07/2004. Previous Article 4.6(b) import restriction for wild specimens from Cambodia, China, Malaysia, Myanmar and Thailand first applied on 22/12/1997, and previous Article 4.6(c) import restriction for live wild specimens first applied on 19/09/1999; all suspensions removed on 10/05/2006.</p> <p>Current Article 4.6(b) import restriction for wild specimens from Vietnam applied on 10/05/2006 and last confirmed on 11/07/2013. Previous Article 4.6(b) import restriction for wild specimens from Vietnam first applied on 22/12/1997 and removed on 29/10/2001. Previous Article 4.6(c) import restriction for live wild specimens from Vietnam first applied on 19/09/1999 and removed on 10/05/2006.</p>
IUCN:	VU

Trade patterns

Lao PDR: *Manouria impressa* was listed in CITES Appendix II on 01/07/1975 and in Annex B of the EU Wildlife Trade Regulations on 01/06/1997. Lao PDR became a Party to CITES in 2004 and has submitted CITES annual reports for the years 2006-2009 only. Lao PDR has not published any CITES export quotas for *M. impressa*. According to data in the CITES Trade Database (downloaded on 15/11/2013), Lao PDR has not reported any direct exports of

the species either to the EU-28 or other countries over the period 2003-2012 and no imports were reported by the EU-28. The United States reported the import of a small number of seized/confiscated *M. impressa* carvings directly from Lao PDR in 2006 (two carvings) and 2011 (one carving). No indirect trade in the species originating in Lao PDR was reported 2003-2012. There was no direct or indirect trade originating in Lao PDR reported at the genus level (*Manouria* spp.) 2003-2012.

Conservation status

Manouria impressa is a medium sized tortoise species, growing to 31-33 cm in length, which inhabits upland forests within Asia (Moll, 1989; Bonin *et al.*, 2006; Bain and Hurley, 2011). It was reported to occur in Cambodia, China, Lao PDR, Malaysia, Myanmar, Thailand and Vietnam (Nguyen *et al.*, 2009; Van Dijk *et al.*, 2012).

The biology and nesting ecology of the species were considered poorly known (Moll, 1989; Wanchai *et al.*, 2013), although reports of clutch size were all within the range of 10-21 eggs (Moll, 1989; Maung and Ko Ko, 2002; Lawson, 2008; Brock, 2009). The species is mainly fungivorous (Brock 2009).

Due to the inaccessibility of its habitat, the population status of *M. impressa* was reported to be largely unknown, although it was generally regarded as rare throughout its range (Moll, 1989). Bonin *et al.* (2006) reported that the species was likely to maintain a “reasonable abundance” in some parts of its range but also acknowledged that some authors considered it to be rare. In Cambodia, Emmett (2009) described its population as “stable or slowly decreasing”. In China, the population was believed to have declined drastically (Lau and Shi, 2000) and *M. impressa* was listed as endangered (Zhao, 1998). In Thailand, the species was described as being rare and found in small, fragmented and declining populations (van Dijk and Palasuwan, 2000). The population status in Vietnam was reported to be unknown, but was believed to have declined (Hendrie, 2000).

In 2000, *M. impressa* was reported to be “one of the ten most threatened freshwater turtle and tortoise species in Asia” (CoP11 Doc 11.35). The species was reported to be collected for subsistence consumption or trade (Emmett, 2009; Zhao, 1998; Lau and Shi, 2000; Stuart and Timmins, 2000; Moll, 1989; Sharma and Tisen, 2000; van Dijk and Palasuwan, 2000; Hendrie, 2000). Collection for the pet trade was considered to be a threat to the species (Moll, 1989; Sharma

and Tisen, 2000; van Dijk and Palasuwan, 2000; Hendrie, 2000), and live *M. impressa* were reported to be for sale in China (Gong *et al.*, 2009) and Myanmar (Min, 2012). It was also reported to be used for traditional Chinese medicine (Espenshade and Buskirk, 1994; Webb *et al.*, 2008) and was recorded for sale in Chinese markets (Cheung and Dudgeon, 2006; Shi *et al.*, 2004). Habitat loss was also noted as a threat (Zhao, 1998; Stuart, 1998; van Dijk and Palasuwan, 2000; Hendrie, 2000).

M. impressa was considered to be commonly in trade within Asia (Webb *et al.*, 2008; Horne *et al.*, 2012) and Bonin *et al.* (2006) noted that it was frequently confiscated at Asian borders and airports. TRAFFIC (2013) reported several seizures involving *M. impressa*, all within Vietnam. Hendrie (2000) had previously noted that the species was observed quite often in illegal trade in the country, and van Dijk and Palasuwan (2000) reported a modest turnover in the country’s illegal pet trade.

M. impressa was classified as Vulnerable in the IUCN Red List, with the justification that it was listed as nationally Endangered in Thailand and was considered Vulnerable in Lao PDR and Vietnam (Asian Turtle Trade Working Group, 2000). A draft re-evaluation by the IUCN Tortoise and Freshwater Turtle Specialist Group in 2011 classified the species as ‘Endangered’ (Van Dijk *et al.*, 2012).

In 2012, *M. impressa* was recommended for transfer from Appendix II to Appendix I, as international trade was believed to be unsustainable due to widespread illegal collection and trade, and up-listing was considered necessary to strengthen the enforcement options available to authorities (Horne *et al.*, 2012; AC26 Inf. 5). However, no proposals to that effect were submitted to CoP16.

M. impressa was considered to be difficult to keep and breed in captivity and was believed to be only suitable for specialists (Espenshade and Buskirk, 1994; Altherr and Freyer, 2001), due to its requirement of specialised food and habitat (Brock, 2009).

Wanchai *et al.* (2013) reported nearly 100 per cent mortality during the adaptation process to captivity. While recent advances in captive husbandry have resulted in more individuals being successfully captive-bred (Lawson, 2008; Brock, 2009; Horne *et al.* 2012), it has still rarely been bred in captivity (Brock 2009, Wanchai *et al.* 2013).

Lao PDR

M. impressa was reported to occur within the northern, central and southern regions of Lao PDR, in forests above 400 m (Duckworth *et al.*, 1999).

M. impressa was reported to be “relatively scarce” in Lao PDR (Timmins and Evans, 1996) and Stuart and Timmins (2000) noted that populations were “probably quite reduced”. The species was considered Vulnerable in Lao PDR (Asian Turtle Trade Working Group, 2000). Interviews with villagers in Phou Louey National Biodiversity Conservation Areas (NBCA) in the late 1990s indicated that the species was much rarer than it had been ten years previously (Stuart, 1998). Timmins and Bleisch (1995) noted that it may have disappeared from some areas within the country. Based on the relative frequency of observations of *M. impressa* in Xe Sap National Protected Area and the low level of human activity in the area a “potentially significant population” of the species was believed to occur there (Calame *et al.*, 2013).

The species was considered to be ‘At Risk’ in Lao PDR, roughly equivalent at a national level to the Globally Threatened IUCN categories (Critically Endangered, Endangered or Vulnerable) (Duckworth *et al.*, 1999). Timmins and Bleisch (1995) considered *M. impressa* to be “of particular conservation concern” in Lao PDR and Johnson (2013) pointed out that while little was known about reptilian diversity in the country, it was notable that most of the known turtles were listed in higher risk IUCN categories (EN, VU) or considered data deficient.

Threats to *M. impressa* in Lao PDR were reported to include exploitation for food (Timmins and Evans, 1996; Stuart, 1998; Stuart and Timmins, 2000; Stuart and Platt, 2004), for their shells (Stuart, 1998; Duckworth *et al.*, 1999; Stuart and Timmins, 2000) and for the live trade (Calame *et al.*, 2013); habitat loss was also considered a threat (Stuart, 1998). Stuart and Timmins (2000) noted that the local subsistence use of wild-collected tortoises was widespread and had taken place for many years throughout Lao PDR and had likely depressed populations before domestic or international trade began. Surveys in Phou Louey NBCA indicated that *M. impressa* were collected after slashing and burning the forest and shells were sold to a trader in Luang Prabang, for export to China and Vietnam (Stuart, 1998). Calame *et al.* (2013) interviewed local villagers in Xe Sap National Protected Area (southern Lao PDR) and determined that *M. impressa* could be sold for 12.5-25 USD/kg and noted that prices appeared to have increased since 2006; he reported collection of the species within the protected area.

Most of the tortoise trade from Lao PDR was reported to be destined for Vietnam or China (Duckworth *et al.*, 1999; Stuart and Timmins, 2000), through an extensive trade network with these countries (Stuart and Timmins, 2000). Collection of tortoises by poachers from Vietnam and China along the borders of Lao PDR was highlighted by Stuart and Timmins (2000). Nash (1997) reported that trade in tortoises from Lao PDR to Cambodia and Thailand had been observed.

Under regulations issued in 2003, *M. impressa* was listed as a ‘managed’ wildlife species, meaning that local hunting for subsistence purposes was permitted but commercial trade was prohibited, except for the purposes of breeding for conservation (Lao PDR, 2003). Nash (1997) believed that laws regarding wildlife trade had probably had limited impact on trade among rural communities, as many of their hunters and

traders were reported not to speak or read the country's official language.

Lao PDR was reported to have officially designated 20 NBCAs which covered approximately 12.5 per cent of the country (Stuart and Timmins, 2000). *M. impressa* was recorded in Nam Et-, Nam Kading- (Duckworth *et al.*, 1999), Phou Dendin-, Hin Nam Ho- (Stuart and Platt, 2004), Phou Louey- (Stuart and Platt, 2004; Stuart, 1998), Xe Bang Nouan- (Timmins and Bleisch, 1995), Xe Sap-, and possibly Phou Khaokhoay NBCA (Duckworth *et al.*, 1999; Calame *et al.*, 2013). The protection afforded to species within the boundaries of NBCAs was, however, considered to be minimal due to a lack of awareness of the laws and boundaries, and a lack of enforcement (Stuart and Timmins, 2000).

Stuart and Timmins (2000) were not aware of any farming operations for tortoise species in Lao PDR.

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