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Source: *Chelonian Conservation and Biology*, 10(1):113-116. 2011.

Published By: Chelonian Research Foundation

DOI: 10.2744/CCB-0856.1

URL: <http://www.bioone.org/doi/full/10.2744/CCB-0856.1>

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NOTES AND FIELD REPORTS

Chelonian Conservation and Biology, 2011, 10(1): 113–116
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Two Additions to the Turtle Fauna of Laos

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ABSTRACT. – Two geoemydid turtle species, *Geoemyda spengleri* and *Cuora bourreti*, are documented from Laos for the first time. The record of *G. spengleri* is based on photographs taken of a wild turtle by staff in a protected area in eastern Bolikhamxay Province, central Laos. Those of *C. bourreti* are based on our examinations of live turtles in the possession of a hunter and in a village in a remote area of eastern Savannakhet Province, southeastern Laos. Both localities lie near the border with Vietnam, where these species were previously known. Turtles are highly threatened in Laos from overexploitation for food and traditional medicine purposes, but the presence of *G. spengleri* and *C. bourreti* within protected areas offers hope for their persistence.

The turtle fauna of Laos has received relatively little attention. Bourret's (1941) regional monograph on the turtles of Indochina provided locality records in Laos only for the 2 species having type localities there, *Cuora mouhotii* and *Cyclemys tcheponensis*. To date, 13 species of turtles have been documented to occur in Laos (Stuart and Timmins 2000; Stuart and Platt 2004). These are *Platysternon megacephalum*, *Cuora amboinensis*, *C. galbinifrons*, *C. mouhotii*, *Cyclemys oldhamii* (as *tcheponensis* in Bourret 1941; Stuart and Platt 2004; see Stuart and Fritz 2008 for explanation), *Heosemys grandis*, *H. annandalii*, *Malayemys subtrijuga*, *Sacalia quadriocellata*, *Indotestudo elongata*, *Manouria impressa*, *Amyda cartilaginea*, and *Pelochelys cantorii*. A 14th species, *Cuora trifasciata*, has been included in this country's fauna on the basis of captives in the capitol's zoo that

were claimed by the zoo's director to have originated in Laos, as well as morphological descriptions and high trade values reported by villagers that are consistent with this species (Timmins and Khounboline 1999). The majority of records of the 13 species documented in Laos have been obtained from markets, villages, and hunters (Stuart and Platt 2004), and consequently the geographic distributions and habitat usages of these species in the country are not well known. Additional species of turtles that occur in adjacent parts of China, Vietnam, and Cambodia may also be in Laos but have not yet been documented there, e.g., *Siebenrockiella crassicollis* and *Palea steindachneri*. Here, we provide the first records for 2 such species in Laos, *Geoemyda spengleri* and *Cuora bourreti*.

The black-breasted leaf turtle, *G. spengleri*, occurs from the Ryukyu Islands of Japan through southern China to as far south as Quang Nam Province, Vietnam (Smith 1931; Bourret 1941; Iverson 1992; Shi 2005; Nguyen et al. 2009). Although the species occurs in Vietnam in a number of provinces that lie along the Laos border (Nguyen et al. 2009), it has not been previously documented within Laos.

Between 20 March and 8 April 2007, a biodiversity monitoring team from the Nam Theun 2 Watershed Management and Protection Authority was deployed into the northern portion of Nakai-Nam Theun National Protected Area, in Khamkeut District, Bolikhamxay Province, Laos, to set camera traps for photographing wildlife. On 27 March 2007, members of the team found and photographed a live *G. spengleri* in the wild, in evergreen forest, 18°21'0.0"N, 105°09'05.5"E (Fig. 1; this and other coordinates WGS 84 datum), at 1080 m elevation. The turtle was photographed (Fig. 2) and released at the site of capture. During the survey, the team saw at least 2 other individuals of the same species.

The Annamese box turtle, *Cuora bourreti*, is known only from central Vietnam (Obst and Reimann 1994; Nguyen et al. 2009; Stuart and Parham 2004), ranging from Ha Tinh Province (Fritz et al. 2002) southward to Kon Tum Province (Nguyen et al. 2009). Details of its distribution are uncertain owing to a paucity of field records and confused identifications with *C. galbinifrons*, its sister taxon (Stuart and Parham 2004) with which it may hybridize (Fritz et al. 2002). Nguyen et al. (2009) extended the range of *C. bourreti* northward to Nghe An Province, including Pu Mat Nature Reserve, but this is likely in error because the same authors also listed that locality within the range of *C. galbinifrons* and field-collected specimens from Pu Mat are *C. galbinifrons* (Stuart and Parham 2004; Stuart and Platt 2004). Obst and Reimann (1994) included adjacent southeastern Laos and northeastern Cambodia within the range of *C. bourreti* solely on the claims of animal traders, but no evidence has yet substantiated the occurrence of this species outside of Vietnam.

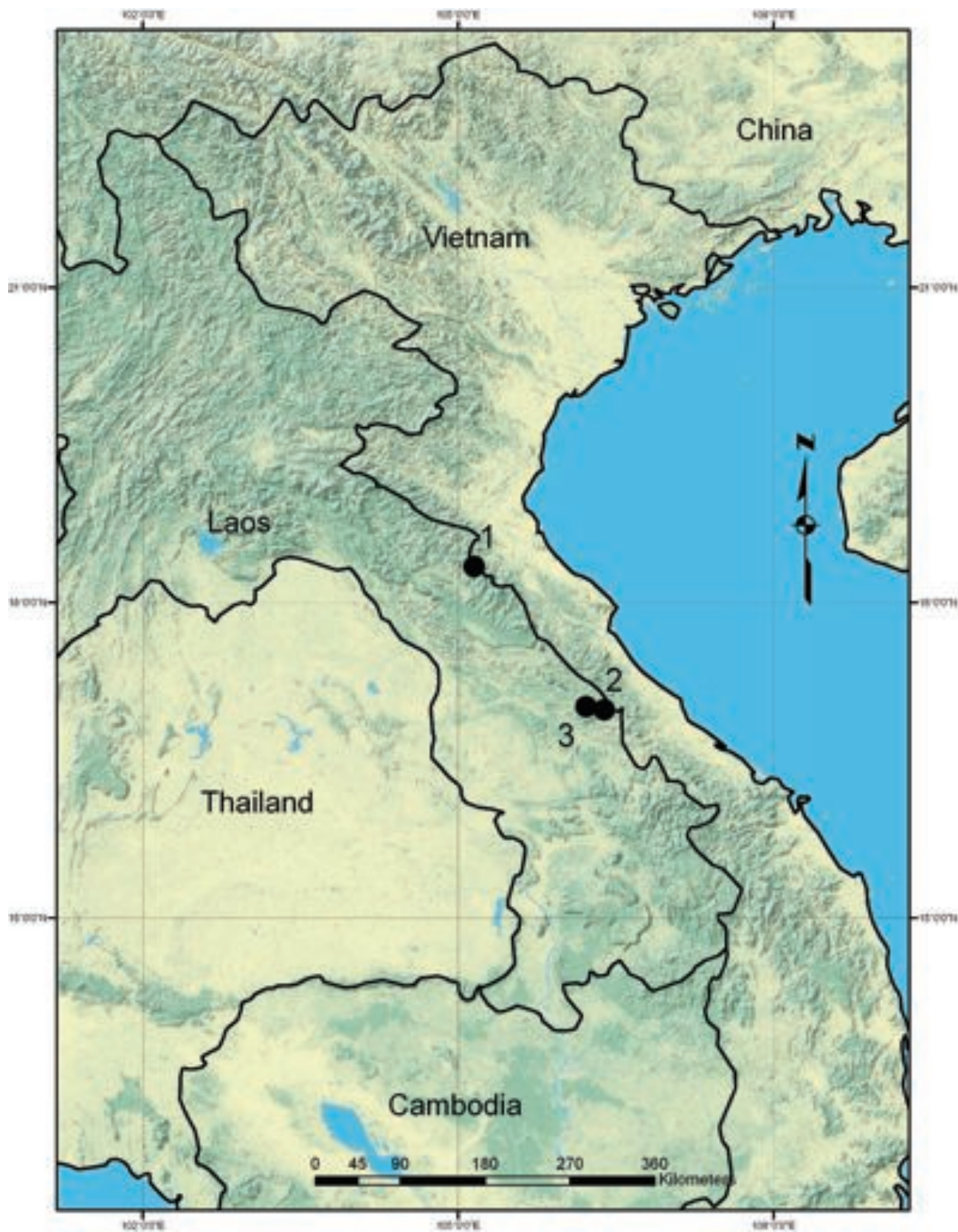


Figure 1. Map illustrating localities of *Geoemyda spengleri* and *Cuora bourreti* in Laos. 1 = *G. spengleri*, 2 = *C. bourreti* (Laving-Laveun), 3 = *C. bourreti* (Ban Klay).

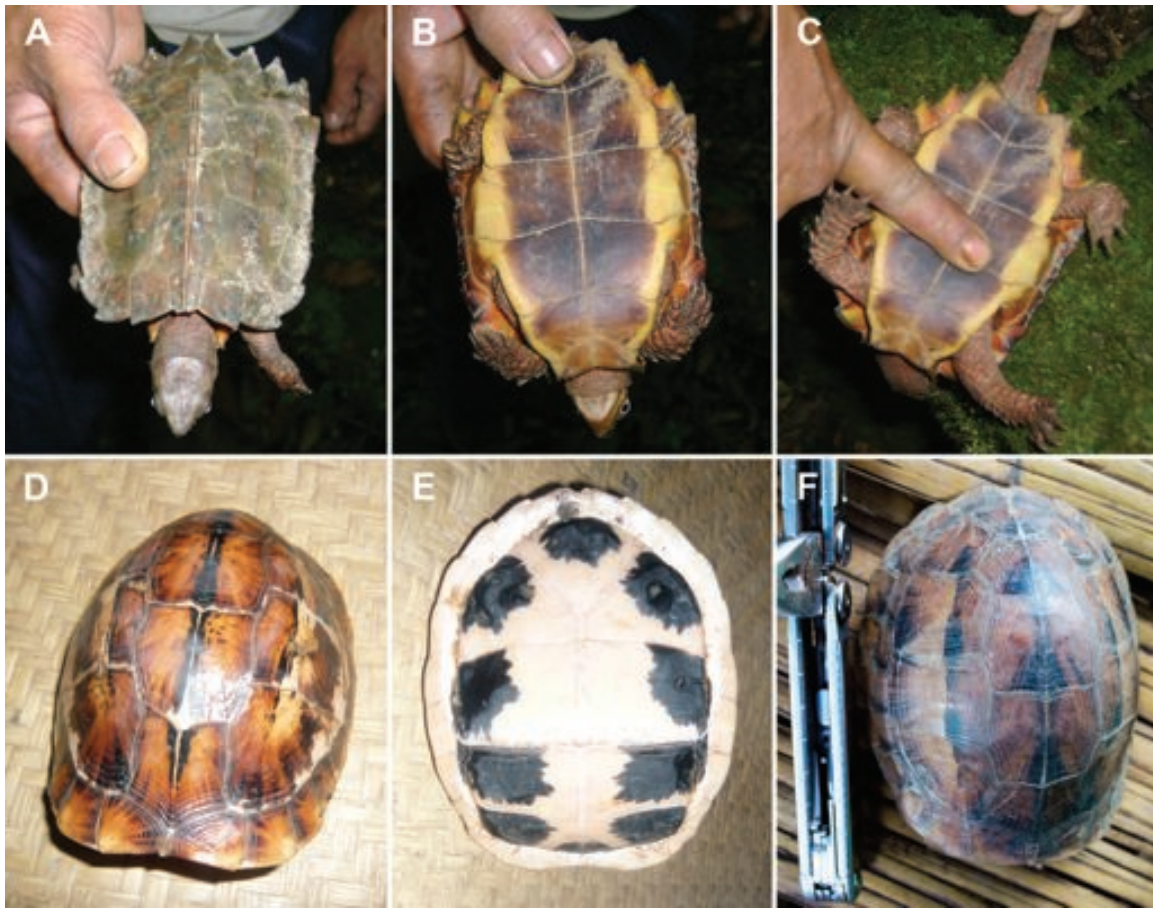


Figure 2. Geomydid turtle photographs from Laos. (A–C) *Geoemyda spengleri* found in the wild in Khamkeut District, Bolikhamxay Province, Laos. Photographs by Nam Theun 2 Watershed Management and Protection Authority. (D–E) *Cuora bourreti* in Ban Klay Village, Vilabouli District, Savannakhet Province, Laos. Photographs by Sengmany Sayaleng. (F) *Cuora bourreti* in the possession of a hunter at Laving-Laveun in Vilabouli District, Savannakhet Province, Laos. Photograph by Chris D. Hallam.

We made 2 observations of *C. bourreti* (Fig. 2) during the course of a joint Wildlife Conservation Society–Lane Xang Minerals Ltd. wildlife survey in southeastern Laos (Duckworth et al. 2010). On 26 June 2009, two of us (CDH and OV) examined a live *C. bourreti* in the possession of a turtle hunter who was camping at Laving-Laveun within the Laving-Laveun Provincial Protected Area, Vilabouli District, Savannakhet Province, Laos, 16°59′07.0″N, 106°23′18.7″E (Fig. 1). On 24 July 2009, one of us (SS) also examined a live *C. bourreti* held in Ban Klay Village (= Ban Khalai; Fig. 1), Vilabouli District, Savannakhet Province, 17°01′N, 106°13′E, that was captured by a village resident within Ban Klay’s resource use area. Although neither record involved a direct observation of a free-living turtle, the circumstances cast little doubt on their provenance within easternmost Savannakhet Province, Laos. Laving-Laveun is a 4- to 5-km² level area surrounded by wet evergreen forest in a remote, uninhabited portion of Laving-Laveun Provincial Protected Area that lies approximately 3 days’ walk from a road in Laos and 2 days’ walk from a road in Vietnam. Ban Klay is a remote village situated within forest approximately a half-day walk from the nearest road, and the steep, forested

terrain between it and the Vietnamese border approximately 20 km to the east is uninhabited. The distances of these 2 observation sites from civilization imply that the turtles were harvested locally, as claimed, and not brought in from elsewhere. Moreover, turtle trade consistently moves from Laos to Vietnam, and not the reverse (Stuart and Timmins 2000; Stuart et al. 2000).

Laos is a major source of turtles for the food and traditional medicine markets in China, and extensive trade networks occur throughout the country to transport turtles from remote villages in Laos to Vietnam, and eventually, China (Stuart and Timmins 2000; Stuart et al. 2000). Wild turtles are also consumed domestically in Laos (Stuart and Timmins 2000). As a result of heavy hunting pressure to meet these demands, most species of turtles in Laos are threatened (Stuart and Timmins 2000). *Cuora galbini-frons*, a close relative of *C. bourreti*, is hunted in Laos with dogs and commands a high trade value (Stuart and Timmins 2000), and it is likely that *C. bourreti* shares the same fate. Both of our Laos records of *C. bourreti* were of animals observed at the beginning of their journey through the trade. It is assumed that *G. spengleri* is also traded in Laos given that all other species of turtles there

have trade value (Stuart and Timmins 2000), and because the species is commonly observed in trade in Vietnam (Hendrie 2000). Fortunately, both of the newly discovered species in Laos occur within protected areas that are intended to curb exploitation of natural resources, such as turtles. Nakai-Nam Theun National Protected Area is Laos' largest and best-funded protected area (WMPA 2005). Laving-Laveun Provincial Protected Area was designated only in 2008 and currently lacks enforcement personnel and resources. However, the biodiversity importance of its wet evergreen forests and wildlife species contained within them are now rightly drawing conservation attention (Duckworth et al. 2010), and there is hope that Laving-Laveun will be elevated to national protected area status in the near future.

Acknowledgments

Lane Xang Minerals Ltd. funded the Savannakhet fieldwork through consulting agreements to the Wildlife Conservation Society. The Department of Forestry of the Ministry of Agriculture and Forestry, Vientiane; Bounhot Namsena, Deputy Head of the Forestry Section, Savannakhet Province; and Phonekham Sayasombath, District Governor of Vilabouli District granted permission to conduct fieldwork. Sangthong Southamakhoth, former Director of the Nam Theun 2 Watershed Management and Protection Authority, was instrumental in facilitating implementation of the Nakai-Nam Theun fieldwork. Bernadene Wardle, Shane Langdon, Michael Hedemark, and Geraldine McGuire provided logistical assistance with fieldwork, and Niane Sivongxay, Somphouthone Phimmachak, J. William Duckworth, Phousy Phommavong, and numerous staff at Lane Xang Minerals Ltd. assisted in the field. James Parham, David Emmett, and Anders Rhodin improved the manuscript.

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Received: 24 April 2010

Revised and Accepted: 15 March 2011