

## ***Cyclemys* of the Peat Swamp of Southernmost Thailand**

**Tanya Chan-ard<sup>\*1</sup>, Siriporn Thong-aree<sup>2</sup>, Michael Cota<sup>1</sup>  
and Sunchai Makchai<sup>1</sup>**

<sup>1</sup> *Natural History Museum, National Science Museum, Thailand,  
Technopolis, Khlong 5, Khlong Luang, Pathum Thani 12120 Thailand*

<sup>2</sup> *Department of National Parks, Wildlife and Plants, Bangkok 10900 Thailand*

**ABSTRACT:** Two living samples of *Cyclemys dentata* and *C. enigmatica* were captured by a local villager from Klong Todaeng close to the peat swamp forest in Sungai Kolok District, Narathiwat Province. Characteristics and colour pattern determination including coarse measurements were done. This is the first record of *C. enigmatica* from this area.

**KEY WORDS:** *Cyclemys dentata*, *Cyclemys enigmatica*, peat swamp forest, Narathiwat Province, southernmost Thailand.

### **INTRODUCTION**

*Cyclemys* Bell, 1834 is a Southeast Asian freshwater turtle genus in the family Geoemydidae. This complex genus is made up of seven species: *C. atripons* Iverson & McCord, 1997; *C. dentata* Gray, 1863; *C. oldhami* Gray, 1863; *C. enigmatica* Fritz, Guicking, Auer, Sommer, Wink & Hundsdörfer, 2009; *C. fusca* Fritz, Guicking, Auer, Sommer, Wink & Hundsdörfer, 2009; *C. gemeli* Fritz, Guicking, Auer, Sommer, Wink & Hundsdörfer, 2009 and *C. tcheponensis* Bourret, 1939 (Bourret, 1941; Ernst & Babour, 1989; Fritz and Ziegler, 1999; Fritz, Guicking, Wink and Lehr, 2001; Stuart *et al.*, 2001; Guicking, Fritz, Wink and Lehr, 2002; Fritz *et al.*, 2008), with some synonyms formerly described (Annandale, 1918; Fritz, Gaulke and

Lehr, 1997). The range of *Cyclemys* spp. in the Sunda region (including southern Thailand) is expected to contain *C. dentata* Gray, 1863; *C. oldhami* Gray, 1863 and *C. enigmatica* Fritz, Guicking, Auer, Sommer, Wink & Hundsdörfer, 2009 (Lim & Das, 1999; Iskandar, 2000; Fritz *et al.*, 2008).

Pa Phru Todaeng is one of the largest peat swamp forests in Narathiwat Province, in the extreme south of Thailand. A shell of *Cyclemys dentata* was formally recorded in the first inventory in 1987. A visit to this location on 21 September 2011 provided new information that there is more than one species of *Cyclemys* in Klong Todaeng. A local villager allowed us to examine and make measurement of two living turtles. One is *C. dentata* and the other is different.

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\*Corresponding author.

E-mail: tanya@nsm.or.th

## MATERIALS AND METHODS

Two living examples of freshwater turtles in the genus *Cyclemys* were captured by local people in Klong Todaeng of Sungnai Kolok District, Narathiwat Province. Both examples were observed, photographed and measured. The measurements of each turtle shell consisted of carapace length and width, and plastron length and width following Harless and Morlock (1979).

## RESULTS

*Cyclemys* sp. 1 adult female (fig. 1, a-d)

### Description of the specimen

**Size:** curved carapace length 21.5 cm. curved carapace width 19.5 cm., plastron length 18.5 cm., plastron width 13 cm.

The carapace is oval in shape, with a median vertebral ridge; 5 vertebral shields; 4 costal shields for each side; 12 marginal shields for each side. Posterior marginals are serrated, anterior ones are smooth. Plastron shorter than carapace; posterior edge of humeral plates straight, perpendicular with the median line; posterior edges of pectoral and abdominal plates convex; posterior edge of femoral and anal plates deeply concave.

**Colour:** carapace brown above; underside of marginals and plastron

yellowish brown with narrow dark radiation. Top of head brownish; longitudinal dark and light stripes on sides of neck extend to sides of head. Body skin inside the shell was whitish. Tail was dark brown.

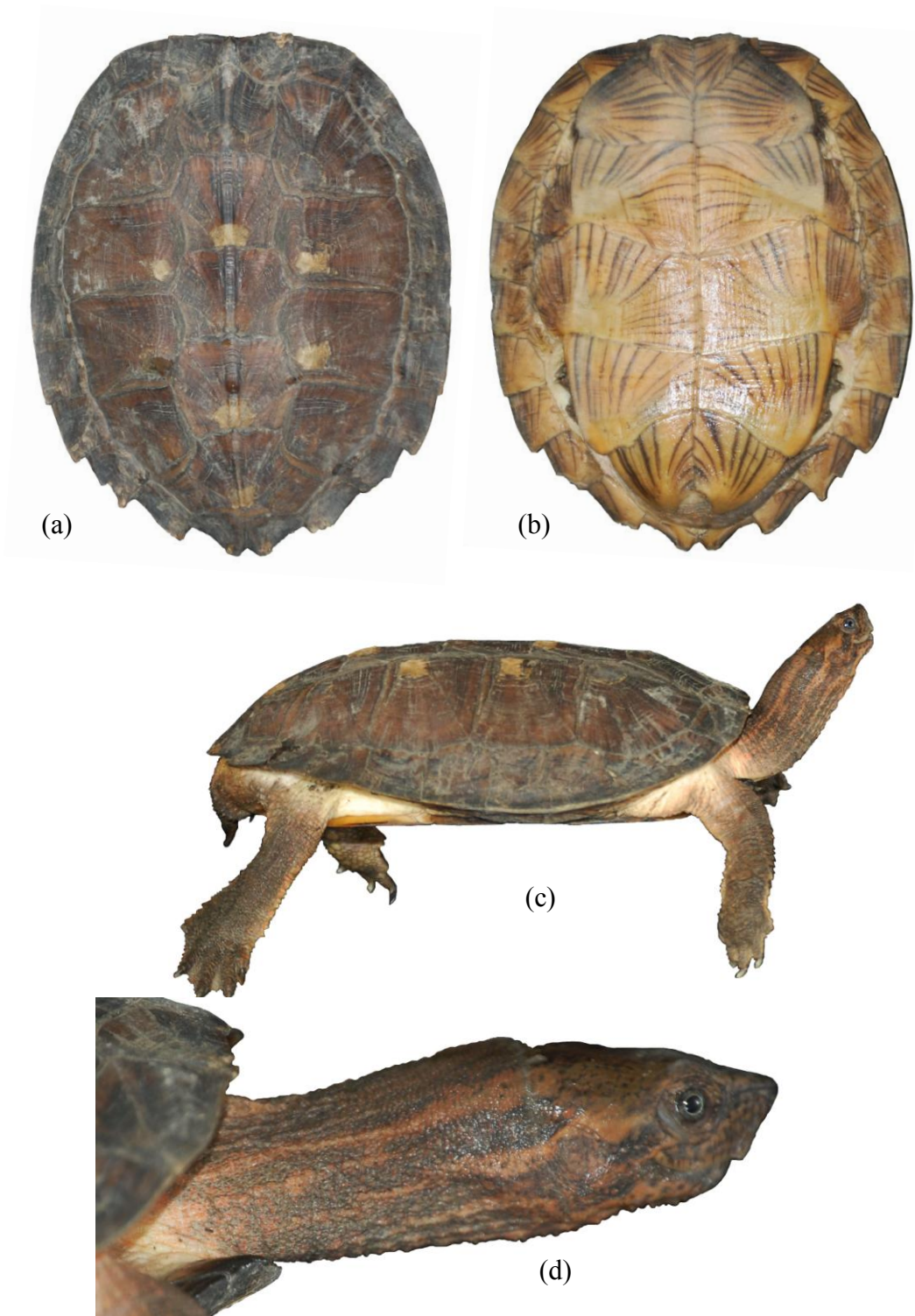
*Cyclemys* sp. 2 adult male (fig. 2, a-d)

### Description of the specimen

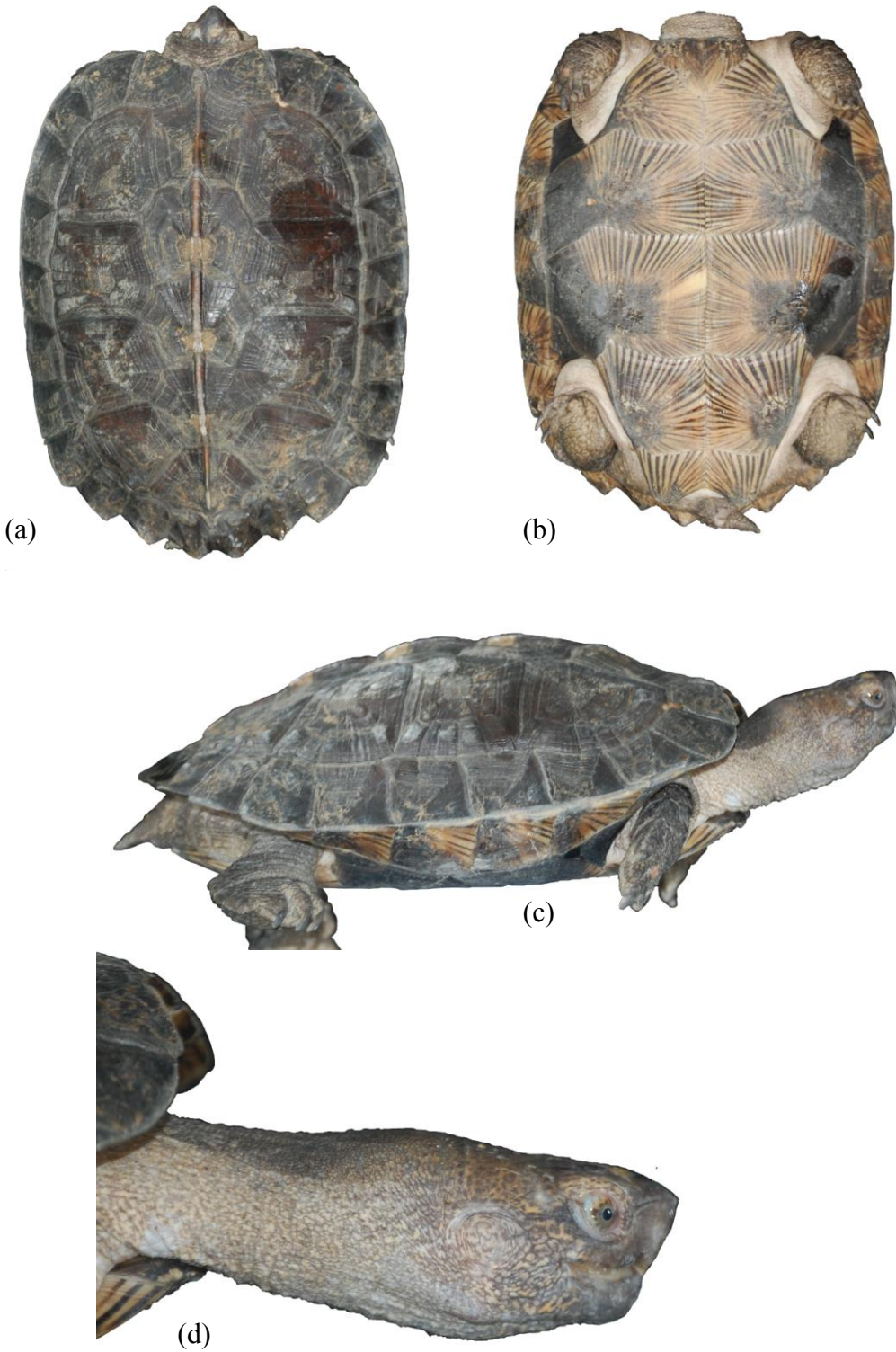
**Size:** curved carapace length 22 cm., curved carapace width 21 cm., plastron length 21 cm., plastron width 14 cm.

The carapace is oval in shape, with a median vertebral ridge; both sides of the shell somewhat parallel; 5 vertebral shields; 4 costal shields for each side; 12 marginal shields for each side. Posterior marginals are serrated, anterior ones smooth. Plastron is slightly shorter than carapace; posterior edge of humeral, pectoral, abdominal and femoral plates slightly convex; posterior edge of anal plate shallow concave.

**Colour:** carapace dark brown above; underside of marginals yellowish brown; anterior and posterior bridges blackish; plastron dark brown on each lateral edges then become paler to become yellowish with brown with narrow dark distinct radiation. Top of head greyish brown; no longitudinal dark and light stripes on sides of neck. Body skin inside the shell whitish; tail greyish brown.



**Fig 1.** *Cyclemys* sp.1; (a) Carapace. (b). Plastron. (c). A side view of shell. (d). stripe pattern on the side of the neck.



**Fig 2.** *Cyclemys* sp.2; (a). Carapace. (b). Plastron. (c). Side view of shell. (d). pattern on side of neck.

## DISCUSSION

The characteristics of *Cyclemys* sp.1 are a good match to *Cyclemys dentata* and the characteristics of *Cyclemys* sp.2 are a good match to *Cyclemys enigmatica*. The identification as *C. dentata* is not unlikely, because the species known in the Thailand range. The type locality of *Cyclemys enigmatica* is Padang, Sumatra (Fritz *et al.*, 2008; Uetz *et al.*, 2011). The range of this species may possibly extend north from Malaysia to southern Thailand. This is a new record in Thailand.

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