

TURTLE CONSERVATION FUND



Cuora picturata PHOTO CREDIT: TORSTEN BLANCK

Turtle Conservation Fund Report: A Mystery Unfolds and a Challenge Begins

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The Vietnamese Box Turtle (*Cuora picturata*) was described to science in 1998, a description that was based entirely on turtles from the markets of southern Vietnam. Scientists had never observed this species in the wild, and its natural whereabouts was a mystery yet to be solved. In 2009, Tri Ly, Huy Duc Hoang and Bryan Stuart sent a proposal to the Turtle Conservation Fund (TCF) outlining a plan to solve this mystery. Funds were provided by TCF, and the search was on.

The suspected origin of this species was

southern Vietnam or adjacent Cambodia, based on its appearance in the markets in this area. To further define where this elusive species might exist, the investigators utilized evidence from phylogeny and biogeography patterns of other Vietnamese Box Turtle species and primates. Yes, primates! How could langurs and gibbons help find our mystery turtle? Read on.

Molecular phylogenetic analysis told our authors that *C. picturata* is most closely related to the Indochinese Box Turtle (*C. galbinifrons*) and



the Bourret's Box Turtle (*C. bourreti*), both of which occur in Vietnam, Laos and China. These species occur in upland, moist, closed canopy forest, so perhaps our mystery species may also be found in such habitat. This helped narrow the search, as the researchers now looking for such habitat near the markets where the turtles occasionally appeared. The Langbian Plateau of southern Vietnam is just such a place.

Now for the clues that came from the primate connection: in examining two primate clades (lineages), a genus of Gibbons and a genus of Langurs that occur in Vietnam, each has a species that occurs with the Indochinese Box Turtle in the northern Truong Son Mountains of Vietnam, and each has different species that occurs with the Bourret's Box Turtle in the central portion of this mountain range. Additionally, each has an additional species in the southern end of the mountain range, on the Langbian Plateau. Perhaps searching where these two southern species of primates occur within the Plateau might lead to the mystery turtle.

Success! Searches in this area in 2010 and 2011 located several *Cuora picturata*: three males, four females and one unsexed juvenile. Excitement reverberated throughout the turtle conservation community with this critical discovery. However, the challenge of conserving this species in its natural habitat now begins. Large areas within the habitat are being converted to coffee plantations and other agricultural uses. Additionally, residents continue to collect and sell the turtles to commercial traders. Stay tuned for the next chapter in the story of the Vietnamese Box Turtle.

This is the story behind only one of the 112 proposals TCF has funded since its inception in 2002, providing a total of \$536,000 in support of turtle conservation to date. All funded projects carry their own tales that not only address the challenges of conserving turtles, but also exemplify the passion of those working to save these magnificent creatures about which we all care so deeply.