

## Asian Box Turtles - Part 2

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Asian Box Turtles- Part two, Yellow margined Box turtle (*Cuora flavomarginata*) & Flower backed Box Turtle (*Cuora galbinifrons*)

The genus *Cuora*, derived from the Malay word *Kura*, which means Hard-shelled Turtle, is a group of semi-aquatic chelonia from the Southeast Asian region. The group comprises currently nine distinct species; with a further six recognised sub-species. Their overall range encompasses the Indian sub-continent, Burma (Myanmar), Thailand, throughout the rest of South East Asia, including Indonesia and Southern China. Within the group, there are a few species which tend to be more terrestrial in their habits. Two of these species are:

(1.) Yellow margined Box Turtle (*Cuora flavomarginata*);



(2). Flower back Box Turtle (*Cuora galbinifrons*);



Whilst properly classified semi aquatic, these two species spend much of their time in damp boggy woodland habitat, which for much of the year is relatively dry.

### Biology:

These two species are found in semi tropical and temperate woodlands in Southern China, Vietnam, Hainan, and up as far as the Japanese islands in the Ryuku chain. They occupy similar boggy woodland habitat, with mountain streams, small rivers and ponds and lakes.

For much of the year, they lead a very secretive and crepuscular lifestyle buried in leaf litter, only venturing out to forage during wet, rainy periods.

Being semi aquatic, they will occasionally take to water, and the young tend to spend their early period in a truly Semi aquatic environment. Both species can be described as omnivorous, and readily take live inverts, fruit and carrion. Unlike their more aquatic cousins, courtship and Mating occur on land, and typical of all Cuora species, the courtship is highly ritualised. The stimulus for mating seems to be triggered by olfaction (smell) and visual cues;



Females lay their eggs in the usual flask shaped nest on land. Females can produce several clutches in a year, with a typical clutch being 2/3 eggs. The eggs are Elongated, and hard shelled. Incubation period ranges from 70-85 days, at a temp of between 25-30 C. In common with many other freshwater turtles from South East Asia, Man commonly eats the flesh of this species and very significant numbers are being collected from the wild for this trade:

Flowerback Box Turtle (*Cuora galbinifrons bouretti*)



Yellow Margined Box Turtle (*Cuora flavomarginata*)



Hatchlings and juveniles, tend to be more aquatic. They are good swimmers, and forage for aquatic vegetation, insects, molluscs, and carrion. On land they feed on fruit, fungi, and earthworms.

Adult Female Yellow margined Box Turtle (*Cuora flavomarginata*)



I have maintained a breeding group of Yellow Margined Box Turtles for many years and consider them fascinating and beautiful animals. I keep two males and two females in a tropical room in my garden. They live on the floor of the room, and have a deep Leaf/ Moss based substrate to bury and forage in. Fresh water is provided daily, and the whole room is maintained at 25 degrees Centigrade. Natural light is filtered through a

Polycarbonate roof, and in addition basking lamps (160 Watt- Mega rays) are also suspended over three areas in the room.

A varied diet of Pellet fish food, fruit and vegetable is offered daily, Additional calcium and vitamin is provided once a week. They are also given weekly lots of live insect food, such as Crickets, Mealworms, Fruit beetle larvae. Just ahead of their mating period, live insects, fresh meat & Fish is increased in the diet, to condition the females for good egg production.

The turtles thrive in this environment and breed most years. Breeding is usually initiated in the UK spring. The males start courting with a head bobbing around the female. One has to be careful because if the female is not receptive, aggression can follow. One of my females once experienced a nasty injury from such an incident. After a successful coupling, the female will nest approx. four weeks later. Mine seem to lay two eggs in each clutch, the eggs typically weighing 22-25 grams.

Incubation at 29-30 degree centigrade lasts 80 days and at hatching, a 25-gram baby emerges. The neonates are kept in shallow water and after a few days fed on a diet of earthworms, and fish pellets.

Obviously, because of the Chinese food/ Medicine trade all species of Asian Box Turtle, (*Cuora* sp) are now highly endangered. Therefore, captive breeding is taking on a very significant imperative!