Chelonoidis denticulata (Yellow-footed Tortoise or Morocoy)

Family: Testudinidae (Tortoises)
Order: Testudines (Turtles and Tortoises)
Class: Reptilia (Reptiles)

Fig. 1. Yellow-footed tortoise, *Chelonoidis denticulata.*

[http://tortoiselibrary.com/yellowfoot.html, downloaded 17 November 2011]

TRAITS. On average this species ranges in length from 40-50 cm at maturity (Tabaka and Senneke 2003), though giant specimens exceeding 70 cm are not uncommon, especially in the wild (Pritchard and Trebbau 1984). Species is identifiable by the colouring of the scutes (individual scales) of the carapace (top shell), which are yellow brown toward the center and grade to a dark brown/black toward the edges (Pritchard and Trebbau 1984), (Wikimedia Foundation Inc. 2011), (Barrio-Amoros and Narbaiza 2008). The head is described as more long than it is wide with large eyes, the prefrontal scales are noticeably elongated and it has a hooked upper jaw (Pritchard and Trebbau 1984). The plastron (lower shell) allows for distinction between male and female. In males the plastron exhibits deep concavity while in females it is flat, or at times, slightly rounded (Barrio-Amoros and Narbaiza 2008). Limbs are elephant like in appearance and heavily scaled, with scales having similar colouring to that seen on carapace. Forelimbs each have five claws while the hind limbs have four each (Pritchard and Trebbau 1984). Tails have a wide cone like shape and are short and stubby in females and typically longer in males (Wikimedia Foundation Inc. 2011), (Pritchard and Trebbau 1984).

ECOLOGY. Thrives in tropical rainforest environments, i.e. high humidity, narrow temperature variation range (19-35°C), dim lighting, (Tabaka and Senneke 2003). May be described as omnivorous (Tabaka and Senneke 2003), but typically forage for fruits, flowers, green leaves and vegetables (Highfield 1996), and are described as more opportunistic meat eaters (Barrio-Amoros and Narbaiza 2008).

SOCIAL ORGANISATION. Auffenberg (1969) describes these tortoises (under the previous name, *Geochelone denticulata*) as lacking a definite social pattern especially in low population densities. Auffenberg (1969) described nocturnal aggregative behaviour, though resting stations and aggregates often changed (Pritchard and Trebbau 1984) and this behaviour was seen mostly when the number of suitable resting stations was limited or the population density particularly high (Patterson 1971). Though not typically seen foraging in groups, they have been stated to be seen at the base of plum trees eating fallen fruit (Pritchard and Trebbau 1984). Outside of nocturnal aggregation and common foraging grounds, interaction between individuals would appear to be limited to courtship behaviours/rituals and species identification.

ACTIVITY. Described as diurnal. Females and juveniles are highly active throughout the year while mature males are only active during the mating season (Moskovits and Kiester 1987). Moskovits and Kiester proposed that the activity of this species is not readily defined and have a wide range as these animals have low metabolic requirements and are not hampered by direct predation (Moskovits and Kiester 1987).

COMMUNICATION. *Chelonoidis denticulata* is known to rely mostly on touch and chemical signals which have major roles during courtship (Auffenberg 1977). Visual displays are seen in species identification particularly between *Chelonoidis denticulata* and *Chelonoidis carbonaria* and between conspecific males during mating season (Pritchard and Trebbau 1984). Audible signals are not highly developed and play a role in courtship (Auffenberg 1977), and may be used to relay information on the vocaliser to conspecifics (Galeotti, et al. 2005).

SEXUAL BEHAVIOUR. There is no agreed upon period which can be described as mating season for this species, though the majority of defined periods are during the wetter months of the year. Males are seen to select one or two mates with which to engage in repeated copulation during the season (Pritchard and Trebbau 1984). Mating behaviours and rituals are seen only in males. Firstly, the male engages in species and sex identification strategies. This is achieved by "challenging" any moving object of the same size and shape by displaying a specific series of head movements. Only in conspecific males will this elicit a response. Once reciprocated, this may stimulate the challenger to continue as such which may lead to charging and ramming of shells in combat. If no response is seen, the challenger then moves to the rear of the individual in question to smell its cloacal region where conspecific females are immediately identified. Once a female is identified mating begins immediately or is delayed only to pursue or immobilize the female if necessary by biting her head and limbs (Pritchard and Trebbau 1984). After mounting there is a period of ramming of the posterior ends of the shells and the mounted male is typically seen to have its neck and head fully extended with its mouth opened, no vocalizations are made at this

point. Male vocalizations are heard following intromission (Pritchard and Trebbau 1984) and is described as a low, raspy moan (Wikimedia Foundation Inc. 2011).

JUVENILE BEHAVIOUR. Young *Chelonoidis denticulata* are able to fend for themselves from birth (Wikimedia Foundation Inc. 2011), and are hatched in clutches that range from as little as 1 to as many as 20 eggs (Pritchard and Trebbau 1984).

ANTIPREDATOR BEHAVIOUR. Hunted mostly by humans for their meat. Due to their slow movements they are generally unable to evade predators but when challenged they retract completely into their shells for defence.

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Posted online: 2011