

MESOPOTAMIAN SOFT SHELL TURTLE (*Rafetus Euphraticus*), THE STRANGEST TURTLE OF THE MIDDLE EAST

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Introduction: Chelonia have existed for nearly 300 million years and are major biodiversity components of the ecosystems they inhabit, often serving as keystone species from which other animals and plants benefit. Increasingly, however, human activities are driving many species to extinction (TCF 2002). Softshell Turtles, (family Trionychidae) have a leathery carapace that lacks the horny scutes typical of most chelonia. The members of this group are widespread in temperate to tropical areas and occupy fresh water habitats (Halliday and Adler 1987). The Euphrates Soft Shell Turtle (*Rafetus euphraticus*) (Rastegar et al 2008) population is declining in its global range and is listed as an "Endangered" species on the IUCN Redlist (IUCN 2010). It is extinct in Kirkiz (Garments 1993) and it is declining in Turkey because of damming. The small population in Iran is thought to be restricted to Khuzestan province. *R. euphraticus* is facing several threats (Mobaraki 2003). Locally *R. Euphraticus* is referred to as "Rafesh" or "Righal" (Mobaraki 2007).

Global Range and Distribution in the country: This species occurs in the Euphrates and Tigris rivers, from south-eastern Turkey, through Syria and Iraq to the Persian Gulf extending into south-western Iran. It occurs from elevations of 1000 m to sea level (Baran & Atathur 1998). The range in Iran is limited to central and western Khuzestan province and related to the main rivers. The border areas of Iran and Iraq contain many important rivers considered as the "habitats" of *R. euphraticus* including Karkheh, Dez, Karoon, Djarrahi, Shahoor and Bahmanshir. Other important habitats are the wetland sites listed as "international wetlands (Ramsar Site) like Shadegan and Hour-Al Azim.

Habitat and Ecology information: *R. euphraticus* is highly aquatic and prefers various types of related fresh water habitats. During field studies turtles were found in different habitats such as slow moving rivers, drainage / irrigating channels, ponds and lakes. The turtles avoided fast moving waters. The sandy or muddy riverside is used for basking although they are difficult to approach out of the water and retreat to the water immediately on recognizing a threat, even from long distances. Many turtles will bask in shallow water to avoid being totally out of the water. The turtles also bury themselves in both riverbeds and riversides.

Ghaffari in her field work reported the nesting season as occurring May (Ghaffari 2004). In our studies we discovered hatched eggs in mid June suggesting that the nesting season could be started early May or before that too. The sandy riversides are used as nesting sites (Mobaraki 2007) with reported clutch size for the species in Turkey between 8 and 17.

Figs 1 & 2. Captured Rafetus from Dez River in Khozestan province, Iran(©Mobaraki).



Fig. 1.



Fig. 2.

Feeding: *R. euphraticus* is a greedy and opportunistic carnivore but fish is the main food resource with the most common fish being *Barbus* spp, *Cyprinion* spp and *Capoeta* spp. The feeding instinct is so strong that often turtles attack fish trapped in nets or take bait on hooks. Unfortunately capture of turtles on hooks or in nets is a common occurrence.

Tuck (1978) reported about the carapace length for mature specimens as 38 cm. In Iran, biometric data collected from about 20 turtles recorded the largest size as about 70 cm (curved carapace length) and 20 kg in weight. There are records of 290 mm as the largest recorded Iranian specimen (Andrson1979). Turtles some times show different colour patterns too (Figures 1 & 2).

Conservation measures in Iran: Based on current environmental laws all wild life species, including the soft shell turtle are protected and there is a fine of US\$ 30 for killing any turtle. Areas of the turtles' habitat have been designated as "protected areas" or "wildlife refuge" in which specific regulations and legislations apply. These areas are under direct control of Department of the Environment and are monitored by guards.

Main threats: There are multiple threats facing *R. euphraticus* Iran. Water pollution by pesticides, fertilizers, oil, industrial chemicals, garbage and sewerage are some of the most important threats. Hunting and fishing is also a significant factor which is mostly related to people's ignorance. Most of the local people use long lines and single hooks for fishing in the rivers and the baits are subject to attract the poor and hungry turtles. As the turtle's jaws are dangerous people sometimes cut the head off the turtle to release the hooks. There is also a belief that turtles compete for fish, which is a human food resource so turtles are killed to prevent them from eating their fish. By-catch also causes some mortality (Mobaraki 2007).

References: Please see the wme news website for the full article including references.

