FEATURES

NOTES ON THE FEEDING BEHAVIOR OF A JUVENILE MUD TURTLE *Kinosternon scorploides*

Kinosternon scorpioides (Li nnaeus, 1766) ranges from Mexico to Argentina (Pritchard 1979), where itis often found in murky bodies of water (Freiberg 1972; Acufla et al. 1963). Despite its wide distribution, little is known of its natural history (Pritchard 1979). Excluding parasitological and systematic papers, most information about the species can be found in Teska (1976), Acuña et al. (1983). Pritchard and Trebbau (1984) and papers cited therein,

We know of no reports about the flatchling and early juvenile stages, which are known only from uncaptioned drawings in Gunther (1902). A presumed hatchling is recorded from Cayenne (Pritchard and Trebbau 1984).

Following notes regard behavior of a single individual of *K. s. cruentatum,* and are published because our many attempts to obtain further specimens failed.

At the beginning of the 1983 dry season. two *K. scorpioidos* were hand-collected while they were motionless in a bed of mud and leaf trash in Central Costa Rica (San Pedro de Pavas, San Jose Province). Adults of the species have been reported at this pool (Acuña et al. 1983). At capture, the specimens measured: length of plastron 3.8 and 4.9 cm; carapace 5.0 and 5.2 cm: width of plastron 3.3 and 4.7 cm: carapace 4.8 and 4.8 cm. Their plastral hinges were not functional. One individual died within 20 hours; the other survived approximately 3 months in an opaque aquarium (6 x 7 x 16cm. with 336 cm3 of water and a small stone as dry section). The observations reported here are based on the longestsurviving turtle. Both specimens are deposited in the Museum of Zoology of the University of Costa Rica (MZ:X-0012).

FEEDING BEHAVIOR AND FOOD ACCEPTANCE

The turtle approached an object put in the aquarium to Ca. 1 cm. with head turned laterally. viewing it with only one eye (“visual examination’). Adult insects and Culicid mosquito larvae that were placed in the water often tried to escape as a result of such approach, generally with success. Biting action was accompanied by strong suction of water, which seemed to help capture small prey (e.g. Culicid larvae). A similar mechanism has been described in taxonomically distant species, e.g. *Cheius fimbriatus* (Pritchard 1984. personal Comm.). If the prey was a fast swimmer (e.g. a hemipteran), the turtle normally abandoned the chase after one or two unsuccessful biting attempts. Its general foraging and feeding behaviors were similar to those of temperate Kinosternids (see Mahmoud 1968: Hulse 1974).

We believe that the visual sense of this turtle was of key Importance in the location and recognition of food, as suggested by the following observations. 1. When 34 Culicid larvae were introduced into the aquarium and the aquarium was placed into a light-tight bag for 46 hours, none of the larvae were eaten. However, as soon as the aquarium was exposed to daylight, the turtle started to consume the larvae. The experiment also suggests that the turtle could not locate the larvae by olfactory or tactile stimuli. 2. The turtle approached inorganic dark objects in the aquarium as described above (‘visual examination”). 3. By observing suspended silt flow as suggested by Carr (1952), we saw that it rarely sniffed food.

When eating prey that was difficult to swatow, such as large earthworms, the turtle showed rhythmic inflations of the neck, which apparently aided ingestion. Finally, the neck was fully extended and bent upwards until the food was totally swallowed. Undesired food parts were expelled orally with a spurt of water.

Table 1 shows That a wide variety of prey was accepted, including live oligochaete worms, snails, flies, and mosquito larvae. When several ot these items were available. the turtle ate the larvae first. Mosquito larvae were immediately recognized as food when irSt offered, and on one occasion. 148 of them were consumed within 24 hours. The !ood of adult K. scorpioides consists of tadpoles, crustaceans, insects and their larvae, Poeciliid fishes, molluscs, and worms (Fiasson 1945; Acuña et at. 1983).

Table 1. Food acceptance of a juvenile *Kinosternon scorpioides* turtle

FOOD ITEMS OFFERED	**NUMBER OFFERED**	**NUMBER CONSUMED**
Culicid mosquito larvae	697	634
Juvenile *Apiexa fuliginea* snails (length about 1 mm)	79	0
Live flies	28	26
Adult *A. fuliginea* snails (length about 1 cm)	21	15
Aquatic oligoquete worms (length about 1 cm)	9	3
3Aquatic oligoquete worms (length about 10 cm)	5	4
Dead Culicid mosquitoes	3	0
A. fuliginea egg capsules	3	0
Water hyacinth *(Eictihornia craSSipeS)*	3	0
Dead beetles	2	0
Dead ants (length about 3 mm)*	1	0
Cabbage leaves *	1	0
Live spiders *	1	1
TOTAL	853	683 (80%)

* Foods that were not collected in the turtle's habitat, and were offered only for comparative purposes.

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