

# THE CHINESE CROCODILE LIZARD, *SHINISAURUS CROCODILURUS*, NOTES ON CAPTIVE BIRTHS AND HUSBANDRY

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## INTRODUCTION

The Crocodile Lizard was not discovered until 1928, when it was found to inhabit a small isolated area of the Chinese province of Eastern Kwangsi in south western China. It was first described in 1930 by the German herpetologist Ernst Ahl. From the little information available it would appear to inhabit the edges of rivers and streams with rocky bottoms, in damp montane forest. Rainfall in the area where it is found averages 2000 mm annually, and winter frost is not uncommon. *Shinisaurus* is diurnal and basks on branches overhanging water, where it can dive in if threatened. It can remain submerged for a considerable time, emerging in thick marginal vegetation when "the coast is clear".

During May 1988 two females and one male living specimens were obtained by the author. Males have proportionately larger heads and predominantly orange colouration, especially ventrally.

The females obtained weighed 100 grams each, the male 50 grams - obviously underweight as it was about the same size as the females. In August 1988, two more animals were obtained: half grown, probably males, with a weight of 20 grams.

All the animals were treated with "Nilvern" worming solution 0.2 ml 100g body weight, orally. For use as an injection the dose is 0.1 ml per 100g. Injection can be less stressful than forcing open the mouth, but in this case *Shinisaurus* were only too willing to open their mouths, in hope of biting a finger.

One adult female showed signs of a suspected *Pseudomonas* infection in its mouth, and was swabbed with a 5% Hydrogen peroxide solution. This proved effective in curing the infection.

## ACCOMMODATION

Housing consisted of a clear plastic container 600 mm (23<sup>3</sup>/<sub>4</sub>" ) x 420 mm (16<sup>1</sup>/<sub>2</sub>" ) x 305 mm (12") high. ("Critter pen", manufactured by Rolf Hagen, Canada).

A Philips TL 20W/09N "Blacklight" was fixed across the rear of the unit 9" from the base and 2" from the rear wall. A 60w incandescent spot light was also provided, in an angled fitting 8" from the base near the front of the unit.

The entire base of the cage was covered with water to a depth of 23 mm. A rock projecting from the water below the spot light provided a "hot spot". A network of branches for climbing and basking above the water were inserted into the remainder of the cage. A drain was fitted in the base to enable fresh water to be flushed through daily, with ease: an important feature as the water is fouled regularly.

Bottom heat to the cage was supplied by a "Jemp" heating cable, at 23w per 10ft. This also served an adjoining vivarium. Temperatures were 38°C at the "hot spot", ambient air temperature 25-26°C, and water 26°C. Apart from the hot basking area this is a similar regime to that used by San Diego Zoo (Schafer, 1986, 1987). At San Diego ambient cage temperatures were 27°C day, 21°C night, with a "hot spot" at 32°C. Day length was 12 hours. This compares to temperatures in the wild of an average 18.6°C, maximum 35°C, and minimum -2.1°C.

## FEEDING

Food items offered and taken included "giant mealworms" (*Zophobas morio*), crickets, locusts, earthworms, and to a lesser extent fish, frogs, tadpoles and new-born mice. Although not offered by the author, freshwater shrimps and various aquatic insect larvae are reputed to

be popular. Slugs and snails were offered but refused.

In an environment such as described above many food items can drown before being eaten, so some items are best fed from tweezers if time, and the lizards permit.

The adults have generally been more erratic in their feeding habits than the younger specimens.



Plate 1. Adult Chinese Crocodile Lizard, *Shinisaurus crocodilurus*.

## REPRODUCTION

Almost immediately after acquisition some interaction was observed between the sub-adults, with chasing and some head bobbing. One youngster incurred a wound on the neck, but no further aggression occurred and the wound healed quickly.

On 11 January, 1989, two live young were born, with some underdeveloped eggs. The young were removed to rear separately. On 5 March, 1989 a second female produced two live young, sometime before 10.30 am; unfortunately these were not removed immediately and an hour later had been eaten. During the course of the day four more dead young and one live were born. This time, the lesson learnt, the live animal was rescued. The last birth on that day was around 7.15 pm but the next day one more dead youngster was passed, making a total of 8.

Some of those born dead were enclosed tightly in their birth membranes, others slightly free but with the membrane constricting the neck. It seemed they were born dead but it is possible one or two may have drowned trying to release themselves from their birth sacs. There were no signs of deformities.

The females were suspected to be gravid when obtained, though this is not certain. The females measured 366 mm in total length, of which 200 mm was tail. The head width was 24 mm. The new-born young were 53-54 mm s.v. length, tails 72-73 mm, head width 9 mm. The young born in January had after two months reached 57 mm s.v., 59-65 mm tail.

In the collection of San Diego Zoo, mating was observed on 7 March 1986, and young were born on 22 November 1986 and 19 December 1986. The average litter size was nine.



Plate 2. Juvenile *Shinisaurus crocodilurus*.

Previous reports of clutch size are 2-7 (Lan-tian and Han-han, 1982; Murphy, 1986). Gravid females have been seen in the wild between July and September, but not giving birth until April or May of the following year, after a period of hibernation. The length of development would agree with the females in this collection. These were also exposed to fairly cool conditions during December, January and February.

These unusual lizards have proved reasonably hardy in captivity, provided the environment does not dry out, and access to water is available at all times. They take a while to settle down to an alien diet, but once this is achieved they feed well.

#### REFERENCES

- Grzimeks Animal Life Encyclopedia (1975). Vol. 6. Reptiles. P.319. Van Nostrand.
- Lan-tian and L. Han-Lan (1982). Notes on the distribution and habits of the lizard, *Shinisaurus crocodilurus* *Acta Herpetol. Sin.* 1(1): 84-85.
- Murphy, J. (1987). Chinese Crocodile Lizard born at Dallas Zoo. *A.A.Z.P.A. Newsletter* 28(1): 12.
- Schafer, S. (1986, 1987). Breeding the Chinese Crocodile Lizard, *Shinisaurus crocodilurus*, at the San Diego Zoo. *10th and 11th International Herpetological Symposium on Captive Propagation and Husbandry*, June 25-28th 1986 and June 17-20th 1987.