

include *Amaranthus* spp. and *Euphorbia* spp. (Pringle *et al.* 1994), both genera being represented on Cousine by one and three species respectively (Bourquin 1996).

**Olive-haired swift** *Borbo borbonica* (Boisduval, 1833) *morella* (Joannis, 1893)

The olive-haired swift is widespread in Africa and is found on the Indian Ocean islands (de Nolet 1984; Henning *et al.* 1997). It is seemingly scarce on Cousine, but has been seen from October to April, usually near the edge of *Pisonia/Ficus* forest and open areas. The species is a very swift flyer, and is dark brown with a row of white spots across the forewing. The food plants include various grasses (Henning *et al.* 1997) of which 20 species have been recorded for Cousine (Bourquin 1996).

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## NOTES

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### On the first captive breeding of the Seychelles black mud turtle *Pelusios subniger parietalis*

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The granitic islands of Seychelles are the most isolated islands to support natural populations of terrapins. Two species are present, both represented by endemic subspecies: the yellow bellied mud turtle (*Pelusios castanoides* Hewitt, 1931 *intergrularis* Bour, 1983) and the black mud turtle (*P. subniger* (Lacépède, 1788) *parietalis* Bour, 1983). There is

some uncertainty whether or not a third taxon, *P. seychellensis* (Siebenrock, 1906) is an endemic species or a variant of *P. castanoides*.

Of these species *P. seychellensis* appears to be extinct (at least as a pure bred form) and *P. castanoides interguarialis* and *P. subniger parietalis* are critically endangered, both being reduced to some 200 individuals (Gerlach & Canning, in prep.).

*P. castanoides* and *P. subniger* have been the subject of a captive breeding project by The Nature Protection Trust of Seychelles since 1997. This aims to produce juvenile terrapins for reintroduction to secure reserve areas. On 2<sup>nd</sup> January 1999 9 eggs were found in the *P. subniger* pond, these measured 15.8-16.8×29.5-32.3mm. They had been in the water for an unknown period of time and none were viable. A further 11 eggs were found on 28<sup>th</sup> February, 9<sup>th</sup> March, 31<sup>st</sup> March, 3<sup>rd</sup> April and 9<sup>th</sup> April. These measured 8-23.5×31.5-37.6mm. Of these, an egg laid on 28<sup>th</sup> February was still viable when found. This developed to within a fewer than 12 days of its estimated hatching date before a rat broke into the incubator and killed it. The carapace of the almost full-term embryo measured 23.5×18mm.

The enclosures were rebuilt in 1999 to encourage the terrapins to lay their eggs on land. In January 2000 a clutch of 8 eggs was again found in one of the *P. subniger* ponds. These had been eaten by one of the terrapins and the gravid female was removed to a shallow pond where she could be monitored and kept in isolation. On 15<sup>th</sup> January a single egg was found in the pond at 19:30hrs, further eggs were found at 21:40, 22:00, 22:30 and 00:10 on 16<sup>th</sup> January. The last egg was found at 06:30hrs. A further two were subsequently found in the pond on 20<sup>th</sup>-21<sup>st</sup> January and two found broken on the soil surface on 26<sup>th</sup> January.

The eggs laid on 15-16<sup>th</sup> January were removed as soon as they were found, rinsed in clean water and placed on a vermiculite substrate in an incubator. Incubation was at 31°C and almost 100% humidity. Of the eggs laid in the water 2 showed signs of embryonic development after 11 days.

On 3<sup>rd</sup> March, after 47 days incubation one egg stated to hatch at 07:30hrs, taking 10 hours and 15 minutes to hatch. On hatching the terrapin weighed 5g and measured 29mm long and 21mm wide. The yolk sac was still present, being 7mm diameter. Within 2 hours that had reduced to 3mm, and being almost fully absorbed within 6 hours.

During the first night the terrapin was left in the incubator and buried itself just under the surface of the vermiculite. It was moved to an a tank containing 5cm of water and a rock. After 5 minutes in the water it was swimming actively (Fig. 1) and feeding on small flakes of commercial terrapin food.

The second egg did not hatch. It was opened on March 26<sup>th</sup> and was found to contain a dead almost full-term embryo. By 22<sup>nd</sup> March (19 days after hatching) the hatchling had grown to 33×28mm and weighed 7g and by 9<sup>th</sup> April (37 days after hatching) had reached 38mm and 11g. (Fig. 2).

From the 4<sup>th</sup> March until 7<sup>th</sup> May the hatchling was fed 3-4 pellets once a day. As there had been no weight gain since 16<sup>th</sup> April, feeding was increased to twice per day with a total of 8-10 pellets. By 5<sup>th</sup> June the yolk sac scar had almost disappeared. Skin shedding around the neck was apparent every 3-4 weeks.

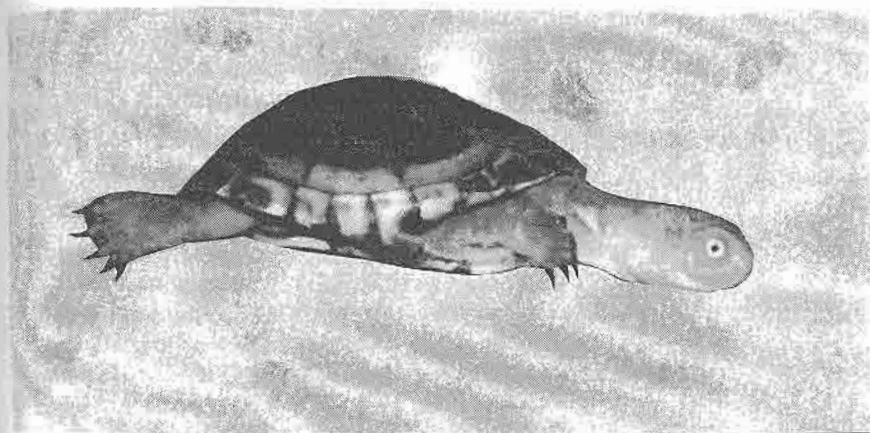


Fig. 1. Hatchling *Pelusios subniger parietalis* at 86 days.

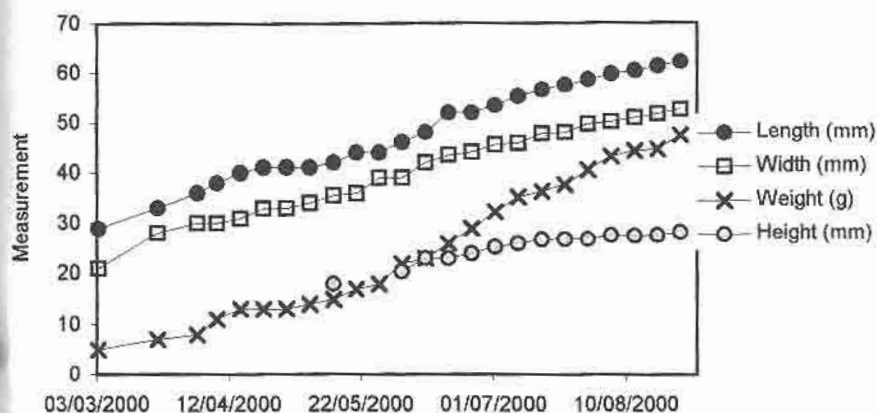


Fig. 2. Growth in *Pelusios subniger parietalis* hatchling

## NOTES

### Toxicity of 'specific' rodenticides and the risk to non-target taxa

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Alien predators are known to have had devastating impacts on some island snail populations, most obviously in the introductions of the carnivorous snail *Engelina rosea*