

Reptile Reflections

By Jon Coote



Searching the academic journals and other sources for recent research findings can be quite rewarding and provide valuable information applicable to improving our methods of breeding reptiles in captivity. Two examples illustrate exactly what I mean, and may well introduce a least one new technique not previously considered by captive breeders.

The first is an ongoing research project at the School of Psychology, Queen's University, Belfast. There, Ph.D. student Helga Sneddon and other members of a research team were investigating embryo learning under the supervision of Professor Peter Hepper. One of their projects was to paint crocodile eggs with artificial strawberry scent for the last 16 days of incubation. Crocodiles are obligate carnivores, and would normally never feed on fruit, but more than 60 percent of the resulting baby crocodiles voluntarily opted for a dish of strawberry scented food.

The implications of these findings are that, by using this technique, we

can influence hatchling reptiles to feed voluntarily on foods that are readily available rather than requiring difficult-to-obtain prey.

For example, we should now be able to influence hatchling gray-banded kingsnakes (*Lampropeltis alterna mexicana*) to feed voluntarily on pinky mice, perhaps using T-Rex's Mouse Maker scented additive. Hatchling snakes of this species are notorious for requiring lizards to feed on; few specimens accept pinky mice. Young snakes of many other species also prefer lizards as prey. Using scents on eggs may make it possible to successfully raise hatchlings of species that have been considered impossible to breed in captivity due to feeding difficulty.

Last year we conducted a trial with corn snakes (*Elaphe guttata*), using a clutch from parents known to produce offspring that were reluctant to feed on pinky mice. These eggs were painted with T-Rex's Mouse Maker for the last two weeks of incubation. All of the resulting hatchlings fed voluntarily on pinky mice that were also scented with Mouse Maker. Trials with other species are being conducted this year and the results should soon be available.

The second example of recent findings is an Australian study in which researchers SHINE and DOWNES exposed gravid female skinks to the scent of a snake, an important predator of the lizards. The offspring subsequently born to these skinks had significantly longer tails and more pronounced anti-predator behaviour than offspring born to females that had not been exposed to the snake scent.

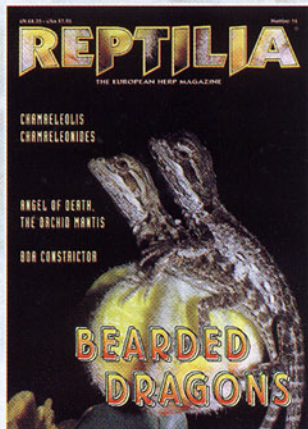
This study suggests that at least some reptiles can adapt to changing environmental conditions. It follows that reptiles produced in captivity will adapt to the conditions under which they are kept, and, in essence, become domesticated over generations. This does challenge the extremists who argue that reptiles are strictly exotic pets unable to adapt to captivity, but really it should come as no surprise considering the large number of other animal species that have already been domesticated by humans.

It is evident from the successful captive breeding of many reptile species that is being carried out today over periods of multiple generations, that these reptiles can in fact adapt well to captive conditions. And now we have some concrete research findings that go further towards proving what we already know. ■

(SHINE, R. and S. J. DOWNES, 1999. Can pregnant lizards adjust their offspring phenotypes to environmental conditions? *Oecologia* 119:1-8.)

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