

A snake park as a conservation centre

Zai Whitaker

Since 1969, when Romulus Whitaker first established the Madras Snake Park, snake conservation in India has progressed a great deal and the Park has played a significant role in this achievement. His wife, Zai, who edits the tri-yearly Snake Park newsletter *Hama-dryad*, was invited to describe the Park's development into an effective conservation force.

Madras is a conservative city and it took some time for a snake park to become a serious entity. In 1969 my husband Rom (the founder-director), leased an abandoned construction site 20 miles south of the town and converted it into a snake park, with thatch-covered enclosures and a brightly painted signboard which was carefully dusted each morning. The entrance fee was 25 paise. There were few visitors, and a portion of these wriggled in under the fence and out again after a quick look. There were regular venom extraction demonstrations and lectures in Tamil on the identification of venomous and harmless snakes, and on the treatment of snakebite. In rural India where some 9000 snakebite deaths occur every year, fear and ignorance take a high toll; we have seen a man foaming at the mouth, complaining of severe pain and going into shock, from the bite of a harmless watersnake. Patients are often taken to village medicine men instead of to hospital for antivenom injections.

The staff of two at the Snake Park repeated, day after day, the message that has now become our trade mark: that there are only four common dangerous snakes in India—the cobra, krait, Snake park conservation centre

Russell's viper and saw-scaled viper; these, like all snakes, will bite only if stepped on or injured; and antivenom serum, if given in time, is a 100 per cent cure. To make this revolutionary message credible to the rural Indian there were modifications. By all means use herbal medicines, people were told—but only on your way to hospital! And, since the snake gives an *injection* of venom, the bitten person must get an *injection* to be cured.

If money did not pour into the Park fame did, and several dailies and magazines published regular write-ups about the Snake Park with its strange American director who swore in Tamil. There was much publicity for instance when he returned from the forests of Agumbe with two king cobras *Ophiophagus hannah* caught with a sleeping bag. For two years the Park limped along, with a Rs.5000 grant from World Wildlife Fund-India and much assistance and encouragement from Harry Miller, a naturalist-photographer. It became obvious at this point that the Park would no longer be viable and had to move its location or die. The Tamil Nadu Forest Department was approached and very generously leased an acre of land in central and beautiful Guindy Deer Park. The Snake Park has never looked back, except to the peace and quiet before the storm. The revised version was inaugurated in October 1971 and soon thereafter made a Trust for public education and reptile conservation.

The Irula snake catchers, backbone of the Park since its inception, complained of the long bus ride into town with their muslin bags bursting with snakes, but this was the only drawback of the move into the city. The early 1970s were teething



Left: The first snake park, at Selaiyur Village (Zai Whitaker).

Right: *Crocodylus palustris* hatching at the Crocodile Bank (Zai Whitaker).

years and much money was wasted designing, building, demolishing and rebuilding reptile exhibits that would suit the hot Madras climate as well as satisfy the visitor's curiosity. The greatest attraction, a 150 ft (46 m) circumference open enclosure with 200–300 snakes was a failure, with deaths being unacceptably high. Chameleons *Chameleo zeylanicus* and vine snakes *Ahartulla nasutus* proved to be fragile captives while watersnakes *Xenochrophis piscator* and rat snakes *Ptyas mucosus* were the most hardy species. The enclosure was eventually turned over to a breeding group of water monitors *Varanus salvator* and another, more successful 'snake pit' constructed. Here we have hourly demonstrations and lectures in English, Hindi and Tamil; numbers are limited to under 100 of the hardier snakes.

One-and-a-half million people now visit each year and the Park has two vehicles (one for field-work), 25 employees and a healthy bank balance. Exhibits include a pair of Aldabra tortoises *Geochelone gigantea*, which were donated by the Seychelles Government, breeding pairs of green iguanas from South America, breeding groups of Indian rock as well as reticulated pythons, three adult king cobras raised from the egg, a breeding pair of mugger *Crocodylus*

palustris, pairs of three of the four Indian monitors and some 40 other reptile species.

Rom resolved early on to devote half his time to field-work. There was a series of trips with Irulas to the Western Ghats (hill ranges) of south-west India. These provided among other things vital information about threatened rain forest areas, and a series of camps in Silent Valley helped lay the foundation for what was to become the biggest environmental battle fought (and won) on the subcontinent.

Crocodile census on a motor cycle

Crocodile survey work was conducted by the Park during the early 1970s in parts of India, and state governments including Tamil Nadu and Gujarat were assisted in *C. palustris* egg-collection, hatching and rearing programmes. Survey funds frequently ran out; on one of the gharial *Gavialis gangeticus* surveys in the north Rom and his Irula counterpart Rajamani had to hitch a 1000-km ride back to Madras on a truck. Meanwhile the FAO/Government of India crocodile programme commenced in 1975 and has had several spectacular achievements including the recovery and breeding in captivity of the dangerously depleted gharial.

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Right: Romulus Whitaker and Allen Vaughan, Manager of Madras Crocodile Bank with a *Crocodylus porosus* (Zai Whitaker).



The Park has been approached by several state governments to assist in and undertake surveys, management plans for other snake parks and reptile conservation plans. This has involved field-work in Tripura, Karnataka, Kerala, Gujarat, Andhra Pradesh, Uttar Pradesh and Madhya Pradesh. In 1977 the Wildlife Preservation Society of Sri Lanka invited us to survey the *C. palustris* and *C. porosus* populations on the Island and we spent two months censusing crocodiles, with an old Jawa motor cycle and three essential Sinhalese sentences. More recently Rom finds himself jetting around to places like Mozambique, Bangladesh, Sabah and Papua New Guinea (where we spent two years on the FAO/UNDP crocodile project there) for FAO and WWF on various herpetological missions.

Rom was the first south India representative of WWF-India and the Park has been its southern headquarters, but this was given up in view of the increasing work load and frequent field assignments. Our correspondence load is formidable and an effort is made to answer every letter and query, down to the crumpled vemacular postcard asking for 'all information regarding snakes of Snake park conservation centre

India and abroad'. In an attempt to communicate and to popularise reptiles there is a tri-yearly newsletter, *Hamadryad*, with notes on Snake Park activities and reptile developments on the subcontinent.

I believe that one of the strengths of the Snake Park has been to develop projects and then turn them over to institutions with better facilities. For instance, the olive ridley *Lepidochelys olivacea* egg-collecting programme was begun in Madras, because on beach walks during the nesting season we invariably came upon (and were quickly overtaken by) commercial egg collectors; we estimated that most of the eggs were ending up in the market and the rest were taken by dogs and jackals. The Snake Park began its hatchery at a friend's seaside compound and regular teams of volunteers set out at night to bring back and transplant the eggs, often walking 15–20 km. In 1977 we collected 14,000 eggs and released 9000 hatchlings; that year the programme was turned over to the Central Marine Fisheries Research Institute and is now an annually budgeted Central Government activity. In 1983 the Tamil Nadu Forest Department made a major effort for the ridleys with beach patrols and egg collection for the five hatcheries.



Above: Audience participation: visitors are sometimes allowed to gently handle harmless species (*Zai Whitaker*).

Right: Hawksbill turtle reared at the Crocodile Bank (*Zai Whitaker*).

Through the efforts of the Snake Park and other institutions and individuals reptile conservation has become a serious subject in India. Snake-skin export was banned in 1977; unfortunately in spite of the admirable work that is being done by Customs and Forest Department officials, illegal trade thrives and tanneries in Madras continue to process skins by the thousand each week.

Crocodile surveys in mainland India, the Andaman Islands, Sri Lanka, Bangladesh and Nepal sketched a bleak future for our crocodilians. Breeding stock was accumulated to form the nucleus of the Madras Crocodile Bank, a separate organisation and a Trust authored jointly by the Madras Snake Park and WWF-India. The Forest Department permitted us to undertake the first crocodile egg-collecting exercise in the country, training in the process government personnel in 20



the collection, care and hatching of mugger eggs. After four years the programme was carried on by the Department; over 1000 mugger are being reared and several hundred have been released.

A bank of crocodiles and turtles

The Crocodile Bank, on 7.5 acres (3.04 ha) of well-watered land 35 km south of Madras, was opened to the public in 1975. There are five large breeding enclosures, for gharial, mugger and saltwater crocodiles, and eight rearing and 20 nursery enclosures. Mugger have bred every year and have produced over 1500 hatchlings. Saltwater crocodiles nested successfully for the first time in captivity in India here in 1983. A phenomenon at the Crocodile Bank that has interested scientists is the unprecedented double nesting that has occurred among the mugger; several of the females lay two nests each season instead of the normal single clutch. Spectacled caiman *Caiman crocodilus* have bred for two years and now the Bank is on its way to becoming an international crocodile bank for all the species. The Bank has supplied 500 juvenile crocodiles to state government projects in India for their rearing, breeding and release programmes. It has received grants from several organisations, including the Tamil Nadu Tourism Department and New York Zoological Society. Recently the Crocodile Bank received a grant from the Wildlife Preservation Trust-International to set up breeding groups and exhibits of Indian freshwater turtles and land tortoises. Dr Edward Moll, Chairman of the SSC's Freshwater Chelonian Group used the Bank as his base during 1982–83 and encouraged us to learn more in a few months than we had assimilated about Indian turtles in the last decade. The Crocodile Bank Research Officer Ms J. Vijaya is working for her MSc (guided by Dr Moll) on the rare cane turtle *Heosemys silvatica* which she 'rediscovered' in Kerala in 1982 (see *Oryx*, 1983, 17, 3). Vijaya now has a collection of 24 species and subspecies of turtles, and captive-breeding groups of cane turtles and Travancore tortoises *Geochelone travancorica* under her care.

The Snake Park has continued to expand its activities, which vary from the establishment of a

profitable venom industry for the Irula tribals to the holding in 1976 of a seminar on snakebite, which was attended by doctors and paramedics from many parts of the country. A field officer was hired and directed towards what we considered the next most endangered reptile group, the sea turtles. In the several years that Satish Bhaskar worked for the Park, and now through sponsorship from WWF-India, he has turned out to be a field man *par excellence*. He has attended international seminars and written authoritatively and for the first time about the distribution, abundance, exploitation levels and breeding seasons of turtles on our coastline and discovered among other things important nesting beaches for the leatherback turtle *Dermochelys coriacea* and hawksbill turtle *Eretmochelys imbricata* in the Andaman Islands.

The Park has changed almost beyond recognition in these 12 years. The office has expanded to accommodate a wildlife and herpetology library, reprint collection, specimen room, research laboratory and dark room. Large controlled environment terraria are provided for species such as pythons and king cobras. We often have visiting colleagues and students from India and abroad; Bob Larson, from the Hogle Zoo in Salt Lake City, Utah was here for one-and-a-half years working on the improvement of captive care and display techniques. Dr Jeffrey Lang is undertaking a study on the reproductive behaviour, temperature-determined sex and double clutching phenomenon in mugger at the Crocodile Bank. Last year we hosted the first meeting of the IUCN/SSC Snake Specialist Group of which Rom was Chairman. We encourage collaboration and try to interest herpetological workers and ecologists from other places to get involved in projects in India, particularly concerning reptiles and amphibians, which are under pressure especially through habitat loss.

Although a number of taxa have bred at the Snake Park and observations of value have been made, the most valid contribution in the Indian context has been its function as a reptile classroom and conservation platform.

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