

Sangai Breeding Strategy Discussions at Calcutta Zoo

By SALLY WALKER

The Manipur Brow Antlered Deer (*Cervus eldi*) is also known as the Elds Deer. Locally the deer is called "sangai", meaning "one who looks at you". The Sangai is referred to even by people who know better as the "Thamin" Deer, however the Thamin Deer (*Cervus eldi thamin*) is the Burmese variety. There is yet another sub-species (*Cervus eldi siamensis*) which is from Thailand.

The Sangai is one of the most endangered mammals in the world. Feared extinct in the mid-fifties, someone (perhaps E. P. Gee according to some sources) convinced the Commissioner of Manipur to send a pair to Calcutta Zoo in 1959 and later to the Delhi zoo in 1962. The Calcutta group started breeding the following year (1960) and the Delhi group also the year after they were received. They bred steadily and both zoos have spared breeding pairs or groups to several zoos in the country.

New Delhi sent deer to Mysore, Ahmedabad, Kanpur, Lucknow, Hyderabad, Nandankanan, Trivandrum and Imphal. Calcutta Zoo has given pairs to Mysore, Trivandrum and Bhilai Steel Plant. Mysore gave deer to Madras, Trivandrum and Gauhati zoos. Both Calcutta and Delhi zoo had given animals for ill-fated and fatal release programmes in the wild at Keibul Lamjao and Jalpaiguri Sanctuary.

Although there were two separate pairs of founder animals for Calcutta and New Delhi, only one Indian zoo collected deer from each group; that was Mysore. The Mysore Zoo lost their Delhi male in the same year and subsequently acquired 1:2 from Calcutta. Since there was only one male and several offspring were born in the years to come we have some reason to think that some of the offspring of this group derives from the two groups instead of one. Due to lack of marking techniques however we do not know which this may be. Although Mysore has spared deer to Madras, Gauhati and Trivandrum, only the Madras deer are surviving and breeding.

Over the past 30 years many Sangai have been born in these zoos. From time to time there would be an article or paper calling attention to the fact that the deer must be inbred and bloodlines should be mixed. There was even an agreement in the late 70's between Delhi Zoo and Calcutta Zoo to exchange animals to strengthen the gene pool but it was cancelled.

Despite the occasional feeble protest the general feeling was that the Sangai was "safe" in captivity. A "100 plus" figure for Manipur deer in Indian zoos was quoted in ensuing years as a captive

breeding success story, and indeed it is. But not without some problems.

A 1987-88 survey sponsored by the West German Zoological Society for Conservation of Species and Populations, which published report is pending, indicates distressing trends. Despite the some fact that the animals had been liberally spared to several zoos and had steadily increased from 1960, since 1980 the birth rate had fluctuated in a steady decline. Moreover as the herds increased up to 1980 it had been with a slight preponderance of males, which as they came of breeding age, fought and killed other males and even females, further reducing the gains made up to 1980. There is a positive correlation between the fluctuating birth rates in the early 1930's and the high, death rate due to fighting. T. B. and other diseases have taken a toll as well. On the positive side there has been a very low rate of infant mortality, particularly when compared with births of similar Burmese subspecies in Western zoos.

In 1982 an important step was taken by the Department of Wildlife, GOI in calling an all-India meeting of zoo directors and designating certain appropriate zoos as captive breeding centres for



Sangai: "The one who looks at you"
Photo by Arun Kaverappa

endangered species. Calcutta, New Delhi and Mysore were designated as the main breeding centres and National Zoo as stud book keeper. Not much

had been done of a practical nature however due to the lack of detailed breeding records from all zoos holding the species and a lack of experience in rectifying this particular type of complex and serious management problem, expertise and action was wanted and needed.

As early as 1979 (and probably even before) others were fretting over this problem and trying to find ways to help Indian Zoo personnel with this. In 1979 the General Secretary of the Wildlife Society of Meghalaya, Mr. Peter Thorne, wrote a letter to Mrs. Anne Wright a founder trustee of the World Wildlife Fund, India and a member of the Indian Board for Wildlife attesting the extreme situation of the wild population and commenting that in his opinion the only hope of saving the species may be captive breeding.

Anne Wright, who had obviously been thinking about this and making inquiries for some time, immediately responded with a suggestion that an expert from some zoo which had dealt with the inbreeding problem with other species should be invited over to assess the situation in the Indian zoos and suggest a long-term breeding strategy for the existing herds.

Anne Wright not only suggested this but immediately went into action, galvanising a number of other important wildlife and zoo experts and enthusiasts in the process.

For the next three years letters flew back and forth between Wright, Thorne, Samar Singh, Pater Scott, Bernard Bertrand, and others, trying to locate and bring a suitable advisor to India.

Locating a person experienced in genetic planning and herd management wasn't difficult but the procedures and protocol to bring such a person to India is more complex and sensitive than sending a man to the moon.

Consequently there was a sort of dull spell for some years, then, *voilà*, everything came together and a "New Noah" (as the Calcutta newspaper dubbed him to his great embarrassment) appeared. This was a result of years of effort, spearheaded by Anne Wright and finally brought to a meaningful conclusion by her also.

Mr. Nick Ellerton, who started his zoo career as a keeper in Chester Zoo and is now Curator of the 2nd largest collection in UK at the same zoo spent two weeks in Calcutta and New Delhi observing the Sangai herds and consulting with virtually every level of zoo, wildlife and government personnel. His interview on general aspects of zoo management will appear in a subsequent issue of **ZOO'S PRINT** and hopefully a report of his visit to New Delhi and the result of his discussion there.

In Calcutta, Mr. Ellerton first met with Mr. A. K. Das, Director, and Mr. Bannerjee of the



*Choudery translates Ellerton's questions to Subash Buch, Zookeeper of Sangai at Calcutta.
Photo by S. WALKER*

Calcutta Zoo Committee Mrs. Anu Wright and others on the zoo staff who took him around the zoo and discussed the history of the Sangai herd. The following day Ellerton along with Tona Crukshank, a Veterinary Nurse from Bristol Zoo studied the herd and enclosures in more detail with the help of Mr. Choudery, Asst. Director of the Zoo and the keeper of Sangai Mr. Subash Buch.

A discussion with Mr. Ashok Kapur, Secretary, Department of Environment, and Vice President of the Zoo Committee was followed by a well-attended public lecture at which the entire zoo committee was present.

Finally Ellerton presented his conclusions in a meeting at the zoo with the President of the Zoo Mrs. Supriya Acharya, Mrs. Wright, Mr. Das, Mr. Bannerjee, Dr. Lahiri Choudhury, and Ms Tona Crukshank.

In brief, Mr. Ellerton's initial report suggested: Considerable reason for optimism due to high birth rate and low infant mortality over the years. There was a need for addressing the problems of male aggression which was responsible for a great many deaths during rut and that of T. B. in the herd.

Suggested management policy included identifying individual animals so that inbreeding can be controlled starting a "Herd Book" to serve as a basis for a Stud Book when individual animals are identified, examination of data on aggression and injuries, redesign of enclosures for easier handling, safety and comfort of animals (including detailed points), formation of joint management groups on a national level, ensuring the containment of disease before moving or examining the animals to reduce stress.

After Mr. Ellerton's departure to Delhi Mrs. Wright requested Ms. Crukshank to take the assistance of the Calcutta zoo staff in preparing a model "Herd Book" suggested by Ellerton. This

will be donated to the Zoo and can serve as a model for zoos and other herd books involving species which are not individually identified.

Ms. Crukshank, will photograph each animal and collect all possible information from Calcutta zoo keeper Subash Buch as well as Director A. K. Das and other staff. It was noted that Mr Buch could approach the animals without alarming them and was keenly interested in his work.

One problem we noted in the recent Sangai census of zoos last year was that zoos some not had identified the sex of the animal at birth which has created lacunae in later analysis of data. Since animals are not generally examined here at birth it was said to be impossible to identify the sex until appearance of antlers some months later.

Mr. Ellerton sorted out that problem in four succinct and simple words: "See how they pee" In females the stream of urine normally points backward or straight down and in males, forward as a result of placement of sexual organs. This can be observed from day number one.

Sometimes the word "expert" is resented and particularly "foreign expert". Rightfully so at times. But Ellerton himself was adamant in rejecting the word. Ellerton, was quick to admit western zoos didn't have the problems to contend with as we do in India and to say that he and his staff could learn so many things from Indian Zoo personnel.

What Indian zoos need more than foreign or even domestic "experts" can be better expressed as **global interaction and sharing of experience** with zoo personnel from every part of India and the world over. Ellerton's attitude exemplified that attitude.

The point is that Indian zoos have been largely isolated from the world zoo establishment and even each other. Zoos in some continents have the definite advantage of tremendous communication and cooperation which Indian zoos are lacking. This year a great many zoo personnel from other countries are coming over. Instead of saying they are "experts" coming to "advise", let us say they are



*Ellerton, Choudery and Buch at the enclosure
Photo by S. Walker*

"colleagues coming to communicate" - about our common problems as world citizens in the area of captive breeding through conservation.

The British Council sponsored Nick Ellerton's visit to India. The World Wide Fund, Eastern Region made internal arrangements for his stay as well as sponsoring other invitees to Calcutta while World Wildlife Fund, Northern Region took over in New Delhi.

WWF Eastern Region is also sponsoring the making of the Stud Book model for Calcutta Zoo.

Next month we will publish Mrs. Wright's minutes of the discussions held at the Calcutta zoo, an article by Mr. A. K. Das on captive breeding of Sangai in Calcutta zoo and a synopsis of figures from the all India survey conducted by Zoo Outreach Organisation. A complete report will comprise the April issue of ZOO ZEN as promised in February issue but which will appear two weeks late this month.

