

## Correspondence

*Comments on: F. Kurt and J. Endres (2008) Some Remarks on the Success of Artificial Insemination in Elephants. Gajah 29: 39-40.*

After reading the above article I feel the authors make an unbalanced judgement and disqualify the efforts and achievements of researchers and scientists working in the field of elephant reproduction, wherein artificial insemination (AI) is but one component. In the following note, I would like to make some comments about remarks made, and data published in this article.

During the past few years, AI has been developed as one result of intensive research about elephant reproduction, including its anatomy, physiology, endocrinology and health. Conducted over the last 15 years, this research has provided us with pioneering knowledge about elephant reproduction, a field of science where knowledge was stagnant for centuries.

Of course in general, natural breeding should always have priority, and all efforts should be made to breed captive wildlife by natural means. Figures given by the authors in this article from EEP and SSP data actually represent that this has been the case for captive elephants. Development of AI is one result of comprehensive elephant reproductive research, which most likely has not yet come to its final stage, and of course still involves some obstacles and insufficiencies that scientists are working to resolve. In principle, the availability of AI for any kind of endangered species provides valuable biotechnology to assist and increase reproduction of the species in cases where natural breeding is not possible, and thus enables more genetically valuable individuals to be included in the breeding process.

In this article, the authors come to misleading conclusions about several issues: the number of calves born as a result of AI is still too low to make a statistically relevant judgement whether an unbalanced sex ratio is caused by AI, or is just incidental and would even out on the long term. In the elephant camp in Way Kambas/Lampung in Indonesia, since 1988 until today, 23 calves

have been born - 17 males, 5 females, and one of unknown sex - all of them produced by natural breeding, mainly by wild bulls. Furthermore, under natural conditions not every mating necessarily leads to pregnancy, but no data exists about natural conception rates in wild elephants. Thus it cannot be judged, as this article attempts to do, to which extent failure of conception during AI is caused by technical obstacles, and to which extent it might be normal. No information is given in the article about pathological findings in stillbirths to evaluate to which extent stillbirths and deaths soon after birth were caused by diseases (e.g. EEHV) or health problems unrelated to AI.

It is surprising to me that the authors highlight the Pinnawela elephant orphanage in Sri Lanka as an example for good, successful, natural breeding. For only 12 females to be reproductive out of a group of about 70 elephants seems like an alarmingly low number. The cited 22 offspring out of these 12 females, over a period of 20 years, translates into an average inter-calving interval of more than 11 years, which is more than double the length of normal average inter-calving intervals of about 5 years, and does not suggest an ideal breeding and health management program at this facility.

Actually, facilities like Pinnawela and Ayutthaya in Thailand (where according to the authors' data, less than 50% of the females are reproductive) could benefit a lot from employing modern reproductive assessment methods, developed by scientists working in the field of AI, to evaluate reproductive health, and diagnose problems in order to improve reproductive health and breeding management amongst their elephants. For exactly such assistance, the international elephant community was approached by veterinarians and researchers from Sri Lanka during the *International Elephant Conservation and Research Symposium* held in Pattaya, Thailand, in November 2008.

Living and working in Asian elephant range countries for a number of years, I have often been impressed by the skill of elephant management and handling in many of these countries, but I have far too often also witnessed unnecessary harshness, brutality, and cruelty during domestication taming, and training procedures at a level elephant managers in western countries couldn't even dream of, often causing serious injuries and even death of the elephants. Having also close insight into western elephant management, training systems and techniques including training needs for AI, I need to say that the techniques employed are never based on brutality but are well understood and employ elephant psychology and natural behaviour to achieve training goals. Just the fact that AI has been repeatedly successful proves that elephants trained for this procedure are not suffering from stress and brutality, but are very well adapted and relaxed during the entire procedure.

As in many species, stress may have an effect on reproduction. If elephants are heavily stressed or undergoing painful procedures for a long period, they just simply do not cycle which would make successful AI impossible. By stating *“These actions increasingly attract the interest of welfare NGOs, which often rightfully criticise the brutal training methods used to make the animals amenable for the A.I. procedures”* the authors prove that such animal welfare and rights groups' propaganda is deceptive, denying facts and only aiming to discredit any type of captive wildlife management.

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Herd coming out of the water in the Walawe Left Bank Project area (Sri Lanka)  
Photo by Jennifer Pastorini