

# **My experience with breeding of Western Tragopan in Himachal Pradesh, India and the study of artificial insemination in tragopans in Belgium**

written by Dr. Sushil Sood, Australia, January 2008

Dr. Sushil Sood, has been working in the Department of Forest, Himachal Pradesh, India (see website at <http://hpforest.gov.in/> ) as a Veterinary Officer and is now on study leave in Australia for a PhD in “Reproductive Technology and Physiology for Birds”. Dr. Sushil Sood holds a Masters degree in Wildlife Management from The University of Reading, UK. He was also a member of the core group for conservation breeding of Western tragopans (*Tragopan melanocephalus*) in India. He has been closely associated with this precious project in the way that he was looking after health care and management of these birds for a considerable period of time (5 years). Western tragopan is endangered in the wild and its numbers are going down mainly due to habitat loss and illegal hunting. The species is on appendix I of the CITES. Himachal Pradesh is the stronghold of Western Tragopan in the world, and therefore of global importance for the conservation of this species.

The Department of Forest in Himachal Pradesh and the Central Zoo Authority in India (see website at <http://www.cza.nic.in/> ) is making all concerted efforts to breed these wonderful tragopans and has got some degree of success. However, many more young tragopans must be bred in large numbers in India and on yearly basis, if the planned reintroduction program is to achieve some degree of success.

This effort requires huge numbers of suitable captive-bred and young birds, which cannot be achieved by natural mating methods in tragopans, and it is here that Artificial Insemination (AI) comes into place to yield fertility and augment the numbers of chicks born. This can then be supplemented by natural mating and selection of those birds that are most suitable for natural mating and release back into the wild.

At the present time, no person in India is familiar with this technique of AI in exotic pheasants and/or tragopans. Mr. Francy Hermans, a biologist and aviculturist from Belgium (see website at <http://www.tragopan.be> ), is one of the very few persons in the world, who has bred many young tragopans during the last 2 decades using artificial insemination methods.



Dr. Sushil Sood, Sarahan, HP, India February 2006

Thus, Mr. Francy Hermans was approached by the Forestry Department in Himachal Pradesh in November 2005 to review the problems with the ongoing project and to make proposals to augment the chances of a successful reintroduction of captive-bred youngsters into the Himalayas. Mr. Francy Hermans has been involved with the captive breeding and reintroduction of the Houbara Bustard (*Chlamydotis undulate*) in the National Avian Research Center, Abu Dhabi, U.A.E. and is familiar with the subject matter. It was only in the month of May 2007 that Dr. Sushil Sood managed to visit Mr. Francy Hermans in Belgium and to learn more about the breeding of tragopans, mainly Satyr, Cabot's, Temminck's and Blyth's tragopan.

It has been almost 7 months when I visited Mr. Francy Hermans in Belgium. I was curious to know in case any person had that level of skills to breed tragopans in hundred when we were struggling to get a few chicks in the Sarahan Pheasantry, Himachal Pradesh (H.P.), India.

It is worthwhile to mention here that only eight chicks had hatched in the entire history of 17 years of the Sarahan pheasantry using natural mating methods. Hence, I was asked to contact Mr. Francy Hermans and request him in case it would be possible for him to share his experiences with me for successful breeding of tragopans. I must admit that he was helpful from the first mail itself and was gracious enough to visit Sarahan in north west India at his own expense to see what were the underlying problems that prevented successful breeding of Western tragopans.

Dr. Sushil Sood & Mr. Alam Singh, Sarahan Pheasantry, Himachal Pradesh, India (summer 2007)



For the time Mr. Francy Hermans was in Shimla and Sarahan, H.P., in February 2006, we did not waste a single minute to go into detail of every aspect of breeding of tragopans. However, a seven days visit was not enough to gather all the aspects of breeding and care of these beautiful birds and hence I sought for a way to go to Belgium and learn all the skills about the management and care of tragopans.

In addition, I was invited by Dr. Jan Libot and his wife Katrien, both leading members of the “[Friends of the Olmense Zoo, Belgium](http://www.olmensezoo.be)” (see website at <http://www.olmensezoo.be>), to learn about the management and husbandry of big cats as the Olmense

zoo specialize in these animals. This trip was clubbed by Mr. Francy Hermans with an internship with Prof. Dr. Gerry Dorrestein, [Dutch Research Institute for Birds and Exotic Animals, Holland](http://www.noivbd.nl/) (see website at <http://www.noivbd.nl/>) for necropsy and disease diagnosis protocols for wild animals and birds as disease diagnosis in tragopans is an equally important aspect of any successful breeding program. Francy and his friends were prepared to teach me all the skills for free which they had learnt and mastered in the past two decades.

When I boarded the plane in Delhi, India, there were a lot of questions in my mind. The most important one was ; “How much time I would be able to spare for my first love (i.e tragopans) from all the internship work ?”. The trip became all the more exciting as this visit was coinciding with the breeding season of tragopans in Belgium (May 2007). I was eager to meet Francy and his birds the day I landed despite 15 hours of journey.

The first glimpse of the birds took all the tiredness away and I was amazed to see the numbers in which tragopans were being reared at this place and thus I had no doubts in mind that in case I’m diligent in my efforts I would be able to equip myself with all the skills that are required for the successful breeding of poor Western tragopans back home. Prof. Dr. Gerry Dorrestein was kind enough to plan things in a manner that I could spare time for my pursuits of tragopan rearing at the facilities of Mr. Francy Hermans in Belgium.

The days at the pheasantry started early at 8 am and we worked till late evenings shuttling between various pheasantries involved in the AI program. I was amazed to see the vast knowledge and wealth of experience Francy and his friend Mr. François Bernar possessed in handling of these birds. Tragopans are sensitive birds and require efficient and proper handling to avoid any mortality. Both men have devised their special ways of handling to minimize the stress in birds. Two persons taking care of several pheasantries housing more than 120 birds such as tragopans, blood pheasants (*Ithaginis cruentus*), and others without a single mortality speaks about the dedication and efficiency and skills they possess.

While Francy is an expert in tragopans, peacock pheasants (*Polyplectron* sp.) and cranes (*Gruiformes*), Mr. François Bernar has an authority over rearing of even more sensitive species like the blood pheasant and the grouses (see website at <http://grouse.fotopic.net> ).

My first few days were spent on learning about handling, watering and feeding of birds. Once used to this I was allowed trapping and handling of birds. But the most interesting and difficult but rewarding was yet to come and the reason, I say “rewarding” will unfold in the next paragraph.

Dr. Sushil Sood at the headquarters, Forest Dep. Shimla, HP, India (February 2006)





Dr. Sushil Sood & Francy Hermans, Belgium doing AI in tragopan, May 2007

At the time I was working with Prof. Dr. Gerry Dorrestein, I also attended the annual meeting of the World Pheasant Association, chapter Benelux held at the Rotterdam Zoo, Holland, where zoo curators and private aviculturists, who have interests in different types of birds, mainly galliforms, had gathered to discuss about the captive status of pheasants in the Benelux. It was an interesting visit as I happened to meet many people who were willing to share their experience with me. All these persons were relying on natural mating methods for breeding their birds and had limited success in achieving 10 –15% fertility in tragopans, where as the fertility rate with Francy and François was as high as 90-95%.

I soon realized the reason for difference in levels of success. It was Artificial Insemination and none of them were using it in their birds because the birds need to be handled very quickly in a stress free manner for collecting the semen. Not many people have those skills and hence do not try and use it in their bird because in case you are not used to the technique then chances of failures are far higher than success and you could have dead birds all around.

As highly efficient and skilful way are required to minimize stress levels of these birds, it took me almost four weeks before I could handle the birds independently and collect semen with some guidance. However, this did not come as simply as I have written it down. It required constant monitoring, refinement and guidance from Francy and François for which they were always there.

I was also taught about all the aspects of artificial insemination and incubation and rearing of 1 day old to 4 weeks old chicks. I could hardly believe my eyes with there being almost 75 chicks in just a time span of one month. All the myths that AI produces lame and blind chicks were false as all chicks except for two were healthy with no physical deformities. These two possessed crooked toes which is a genetic defect and cannot be attributed to the technique of AI.

In addition to this, I was fortunate to learn the skills of semen collection and artificial insemination in different species of cranes at the Wisbroek Breeding Center, Stramproy, Holland. This initiative was also at the courtesy of Francy Hermans and his friend Mr. Vitor Moonen, the owner of the [Wisbroek breeding center for cranes, ibises and spoonbills](http://www.wisbroekbreedingcenter.com) (see website <http://www.wisbroekbreedingcenter.com>) . It was a tough task for all the people to risk teaching me on their precious birds in the middle of breeding season. I 'm appreciative of the way all the people contributed in their own special way to enable me to learn minutest aspects of artificial insemination and semen collection.

I was fortunate enough to visit the [Animal Science Group at the University of Wageningen, Holland](http://www.asg.wur.nl/UK) (see website at <http://www.asg.wur.nl/UK> ) where the first trials for cryopreservation of tragopan, grouse and crane semen were conducted with some level of success. However, there is hope that these experiments will give good results in the near future and hence the day is not far where it would be possible to have a gene bank of these birds. This is another step in the conservation of endangered species of pheasants. I wish the team all the best in their scientific pursuits on this front.

Further apart from my learning obverse my trip was made to be one of the most memorable one till date. I was able to learn and interact with one of the nicest people I have ever met. As these guys made a concerted effort to make me learn every aspect of successful tragopan breeding, their partners Odette and Rita made every effort to make me feel at home. Jan and Katrien chipped in their way of organizing trips to different places so that I could see the culture and history of Belgium. I would also like to thank here Prof. Dr. Gerry Dorrestein for imparting me skills about necropsy techniques, Dr. Alfons Schepers and his wife Gerda for being so wonderful hosts, Mr. Tony van Meegen of the [Dutch Foundation for the Refuge and Care of Parrots or the NOP](http://www.papegaai.org) (see website at <http://www.papegaai.org> ) for allowing me free stay while my internship at NOIVBD and Mr. Charles Verheyen, Director of Olmense zoo, for sharing his ideas about husbandry about the wild cats.

Last but not the least, I would also take this opportunity to thank Mr. Kauschalendra Singh ji who painstakingly sent the pheasant feed and supplements from Lucknow, India for the Sarahan pheasantry so that we could improve breeding condition of the birds. This all was done totally free of cost just to see the project does not suffer any setback and that conservation of tragopans remains the prime issue.

Not only did I return acquiring the unique skills of breeding tragopans through artificial insemination but also made lovely friends for my lifetime. I'm waiting for the opportunity when I will be able to implement all the acquired skills back in the Western Tragopans in H.P., India to help in saving this lovely bird very soon on the brink of extinction. The first chick of Westerner born through AI in India would be the real tribute I dream of paying to all these helpful people.

Regards

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Informative website links and YouTube videos of my experiences with tragopans in India and Belgium;

[YouTube video of AI in tragopan pheasants in Belgium, May 2007](#)

See website at <http://nl.youtube.com/watch?v=CW2vZVMtOwg&feature=Playlist&p=585869C3266DF714&index=8>

[YouTube video of AI and tragopan semen studies in Belgium, May 2007](#)

See website at <http://nl.youtube.com/watch?v=MKGROZWxsks&feature=Playlist&p=585869C3266DF714&index=9>

[YouTube video of cryopreservation of semen from tragopan, grouse and crane, May 2007](#)

See website at <http://nl.youtube.com/watch?v=JCTqkXCJPTY>

[YouTube video of semen collection in male Satyr tragopan by Dr. Sushil Sood, Belgium May 2007](#)

See website at <http://nl.youtube.com/watch?v=5XwQA7InXVg>

[YouTube video of AI a prime tool for breeding of Western tragopan in H.P., India, February 2006/.../May 2007](#)

See website at <http://nl.youtube.com/watch?v=PNlvbbqzal&feature=Playlist&p=585869C3266DF714&index=13>

[Western tragopans at the Sarahan Pheasantry in Himachal Pradesh, India, February 2006](#)

See website at <http://tragopan.fotopic.net/c887564.html>

[AI in non-domesticated birds \(only in Dutch language for the time being\) with lot's of photographs, June 2007](#)

See website at <http://www.francy.be/kilezing.pdf>