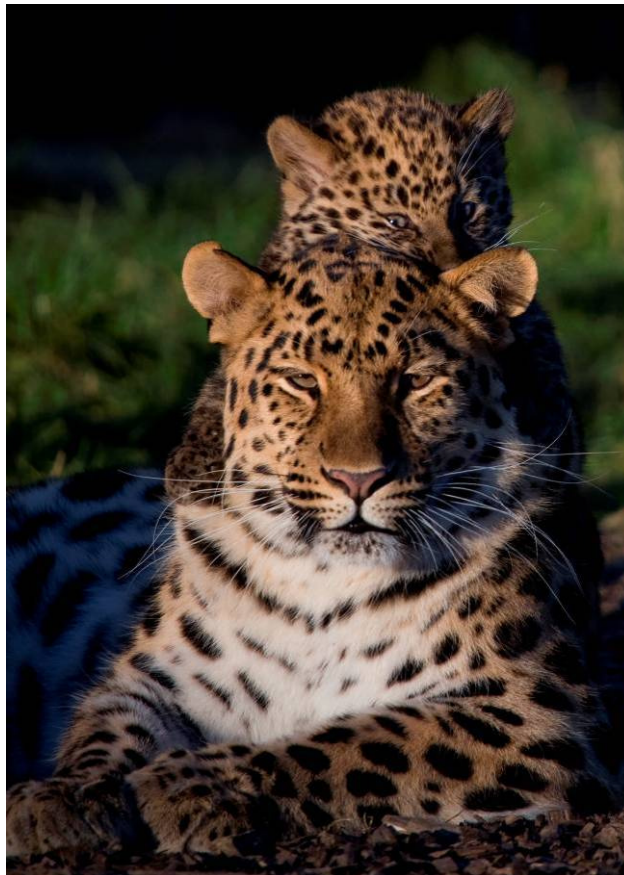


Amur Leopard Project: Summary of Activities 2011

Introduction

The Amur Leopard Project underwent considerable progress and change during 2011. Given sufficient future funding, WVI's commitment to this rarest of cats will remain undiminished, although our role in the Russian Far East will take a slightly different form.

(Detailed information of WVI's involvement with the Amur leopard to date can be found in previous reports posted on our website www.wildlifestvts.org and obtainable from WVI on request.)



Picture courtesy of the Wildlife Heritage Foundation

Activities in the UK

The role of WVI:

As in previous years Dr John Lewis continued to act as veterinary consultant to the leopard project in the Russian Far East run by WCS-Russia and The Institute of Biology and Soil (part of the Russian Academy of Sciences), and to the Zoological Society of London's Amur Leopard Wildlife Health Programme (ALWHP). The ALWHP seeks to identify potentially dangerous infectious diseases in prey species at proposed leopard reintroduction sites in the RFE. A considerable amount of John's time in the UK is also taken up with being the veterinary advisor to all members of the European Amur leopard captive breeding programme (or EEP) which operates in a range of zoos across Europe from the UK to the Russian Federation. Being at the heart of both *in situ* and *ex situ* conservation programmes for the Amur leopard allows a uniquely integrated veterinary overview of the problems and potential solutions in the efforts to protect this wonderful animal.

UK presentations:

Illustrated lectures on the veterinary aspects of Amur leopard conservation are given as often as possible each year to veterinary interest groups, animal professionals, university departments, etc. In 2011 presentations were made to Fauna & Flora International in Cambridge, the European Association of Zoo & Wildlife Vets in Budapest and Bristol University Zoological Veterinary Society. These talks tend to generate enthusiasm rather than revenue, but it is important that as many people as possible know about the plight of this animal.

Amur Leopard Veterinary Database:

Data from over 600 captive and a few wild leopards has now been entered into the Amur Leopard Veterinary Database, and we plan that within the first half of 2012 all remaining available data would have been included. Although data input is now virtually free from glitches, some problems remain within the analytical side. Developing databases is an expensive exercise, but arrangements have been made to iron out these minor issues in early summer 2012.

Communication has now been established with the veterinary advisor to the North American captive Amur leopard breeding programme, who is happy to provide data on leopards born in Europe that were exported to the US and Canada. This is a welcome development.

Once we are happy that this database works at the level required, it will be an invaluable resource for the veterinary management of the Amur leopard and analysis of its problems. Given that much primary material and many illustrations are embedded the database will also be of great value as a teaching aid. Vets, students and other wildlife researchers will be able to design their own analytical frameworks as the database has been written in Microsoft ACCESS thus allowing novel queries to be written without recourse to the software developer. Interest has recently been shown by veterinary advisors to other European felid breeding programmes and it is WVI's intention to make the database structure available to others.



The Amur Leopard Veterinary Database Switchboard

Research:

In parallel with the development of the veterinary database, a deep frozen centralised bank of biomaterials from wild and captive individuals has been established for the Amur leopard to facilitate future research. The bank contains serum, plasma, whole blood, hair, gland secretions, urine and other materials.

The first project using this facility has now been completed. Amelia Zakiewicz, a student at the Royal Veterinary College, London, investigated whether there was any serological evidence of heart muscle damage in leopards that had previously been identified as having heart murmurs. Using a simple test on serum samples from the bank, Amelia was able to show that no such evidence existed. This is a reassuring finding as heart murmurs are common in both the captive and wild Amur leopard populations, and it is important to define their significance. Due to the availability of banked samples, it was not necessary to anaesthetise the leopards for Amelia's study.

Activities in Russia

Field season in the Russian Far East, 24-Sep-11 to 15-Nov-11:

This year's field season was characterised by somewhat uncharacteristically warm weather, with temperatures dipping no lower than minus 10 degrees C, and only a light dusting of snow. Despite hearing leopards from the camp, and finding footprints, scrapes and droppings on a ridge, no leopards were caught for radiocollaring this year. This was disappointing yet again, but permits were only given to trap in the same area as was used in 2009 and in early 2011, and it is possible that the leopards in this area are wise to our efforts!

However, two healthy male tigers were caught and collared. Given that one of the project's objectives is to learn how tigers interact with leopards in the same area, this was a major success. Furthermore, surveillance of infectious disease in tigers is almost as instructive as it is in leopards from the same area. Blood samples from these cats can be tested for evidence of infectious diseases that could impact on both species – and plenty of samples were taken and stored in liquid nitrogen for future investigation.



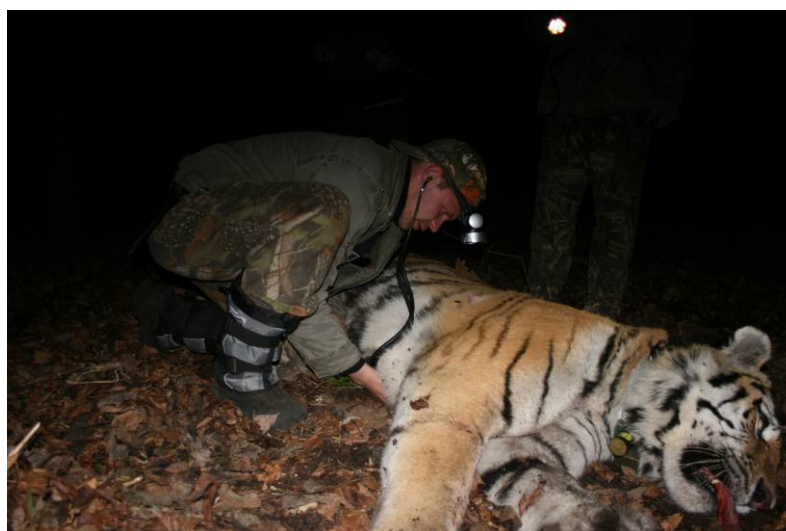
Three Asiatic Black bears were also caught. Although bears are not target species for catching, the presence of antibodies to specific infectious disease agents such as canine distemper virus would demonstrate that the disease is present in the area, and so even sampling bears has value for the assessment of risks to Amur leopards (*Canine distemper virus is potentially lethal to leopard and tiger. At least three confirmed cases have been documented in tigers in recent years, albeit further to the north*)



Night time bear capture

Training:

The Russian wildlife veterinarian Misha Gonchuruk was present throughout the trapping season in 2011. Trapping two tigers and three bears provided ample opportunity for further training and development of his clinical skills in the field. Training wildlife vets is a very high priority for WVI, and much can be achieved if the contact is repeated and over a long period. Misha is becoming a recognised wildlife vet in Primorye and is now often involved in other projects in the area.



Misha Gonchuruk examining a male Amur tiger

Misha has been working for three years in the Lazovsky Zapovednik catching prey species as part of ZSL's Amur Leopard Wildlife Health Programme. This is done to establish what significant infectious diseases might be present in an area where a leopard reintroduction is planned. During the trapping season John and Misha had ample time to review progress to date and plan its next phase. Exporting samples for testing in the UK is a complicated business, but Misha has finally mastered the bureaucracy and we are expecting a shipment in early 2012! A small number of wild animal post mortem examinations were also made (fox, flying squirrel, swallow, Siberian weasel) and these are always valuable teaching opportunities as well as a source of useful data.

Short-tailed leopard:

Given the very small number of Amur leopards that remain in the wild, we must always be alert to the possibility of abnormalities resulting from inbreeding. In the captive population an occasional animal has been seen with a short stumpy tail instead of the more familiar long version, and in at least two cases the leopard was probably born with this condition (*Trauma immediately after birth accounts for other cases*). No specific gene has been identified to account for the condition, but investigations haven't been exhaustive. Until this year no cases had been reported from the wild. However, a short-tailed leopard was photographed by camera trap in 2011, and images of its mother appear to show a slight kink or bend in the tip of her tail. Although trauma cannot be ruled out as the cause, these observations do raise concern. Kinked tails and short "bobtails" were seen in the far more intensely studied Florida panther (a type of puma) in the USA and considered likely to have been related to inbreeding.



Short-tailed wild Amur leopard



Mother of the short-tailed individual

As technology improves, images of wild animals from camera trapping can provide enormously valuable information for wildlife vets. During 2011 several email discussions were held with Dr Linda Kerley about possible eye injuries or defects in tigers from Lazovsky.

Ussurisk conference:

At the beginning of the trapping season an international symposium entitled "Flora and Fauna of World's Forests" was held at the Primorskaya Academy of Agriculture in Ussurisk. This was perhaps the most prestigious meeting yet to be held at the academy, and a number of eminent biologists and veterinarians attended. John Lewis was invited to speak and gave a presentation entitled "Infectious diseases of wild leopard and tiger in the Russian Far East". A manuscript has been submitted for publication in the conference proceedings.

Reintroduction programme.

The planned reintroduction of captive born Amur leopards into the Lazovsky Zapovednik still lacks sufficient funding to go ahead in the immediate future. However, with funding provided through the Russian Geographic Society, a group from Moscow under the direction of Dr Rozhnov has made substantial progress in the Ussurisk Zapovednik. A centre has already been built in the south of this reserve designed to hold two breeding pairs of leopards, although none are on site at present. Leopards will be provided from the European breeding programme once a few adjustments have been made to the holding facility and details of the release plan have been received. It is our understanding that the initial plan is to release 10 leopards. Although Ussurisk may not be the first choice site for a reintroduction, Dr Rozhnov has commented that the Ussurisk project could be regarded as an experimental pilot to the Lazo project, and that the two projects can work together. WVI endorses this cooperative approach.

John Lewis visited the Ussurisk Zapovednik breeding centre in October 2011 following discussions with its' local organiser Dr Sergey Naidenko. A number of veterinary issues were explored and advice given concerning some details of the centre's construction. This is seen as a very positive step forwards and it is hoped that cooperation with this group has only just begun. Progress towards the conservation of Amur leopards in the wild is best made through pooling the expertise of all concerned.

Miscellany:

WVI was able to provide 15 boxes of the field anaesthetic “Zoletil” to the WCS teams at Terney and Senacosna – courtesy of generous support from Virbac UK. A variety of veterinary consumables were also provided for the use of Misha Gonchuruk and the WCS team during the coming year.

The future in the Russian Far East:

For a number of political and practical reasons we have been given to believe that further trapping and radiocollaring of leopards in the Russian Far East is very unlikely to be permitted – at least for the time being. However, this is no reason why WVI’s commitment to the conservation of Amur leopards and tigers should diminish. Activities based in the UK will continue as before, support for all agencies involved with reintroduction efforts will be maintained, and already a request has been received from WCS-Russia for John Lewis to be involved with tiger assessment and collaring in the Sikhote-Alin region next autumn. Perhaps more importantly, it is crucial for the future of these cats that development of local veterinary capacity continues. One objective for 2012 is to summarise all disease risk data that has been painstakingly gathered over the past five years and publish it so that the information will be available for anyone involved in Amur leopard conservation in the future. Needless to say all these activities can only go ahead given sufficient funding!

Recent publications:

Gonchuruk, M.S., Kerley, L.L., Christie, S., Lewis, J., Borisenko, M.E.

Naydenko, S.V. & Rozhnov, V.V. (2010)

Infectious diseases among mammals on the south-east of Prymorsky Krai.

Proceedings of the scientific conference, devoted to the 75th anniversary of Lazovsky Reserve, Lazo, 28-29 Sept 2010, pp77 - 82

Miquelle, D et al 2010

A Program for reintroduction of the Far Eastern Leopard into Southern Sikhote-Alin, Primorsky Krai, Russian Far East, Feb 2010-08-04 D. Miquelle et al

On line at:

<http://www.wcsrussia.org/Publications/TheFarEasternLeopardScientificPublications/tabid/1491/language/en-US/Default.aspx>

Sweeney, K et al, 2010

Cytochrome P450 activity of Amur Siberian Tiger (*Panthera tigris altaica*).

Poster presented at the International Society for the Study of Xenobiotics meeting, Istanbul, Sep-10.

Conclusion

2011 was another productive and interesting year for the project. Since its beginning the range of activities with which WVI has become involved has greatly expanded and evolved in response to local need. We are indebted to our sponsors and hope that they all can continue their invaluable support.

Dr John Lewis
Veterinary Director,
Wildlife Vets International

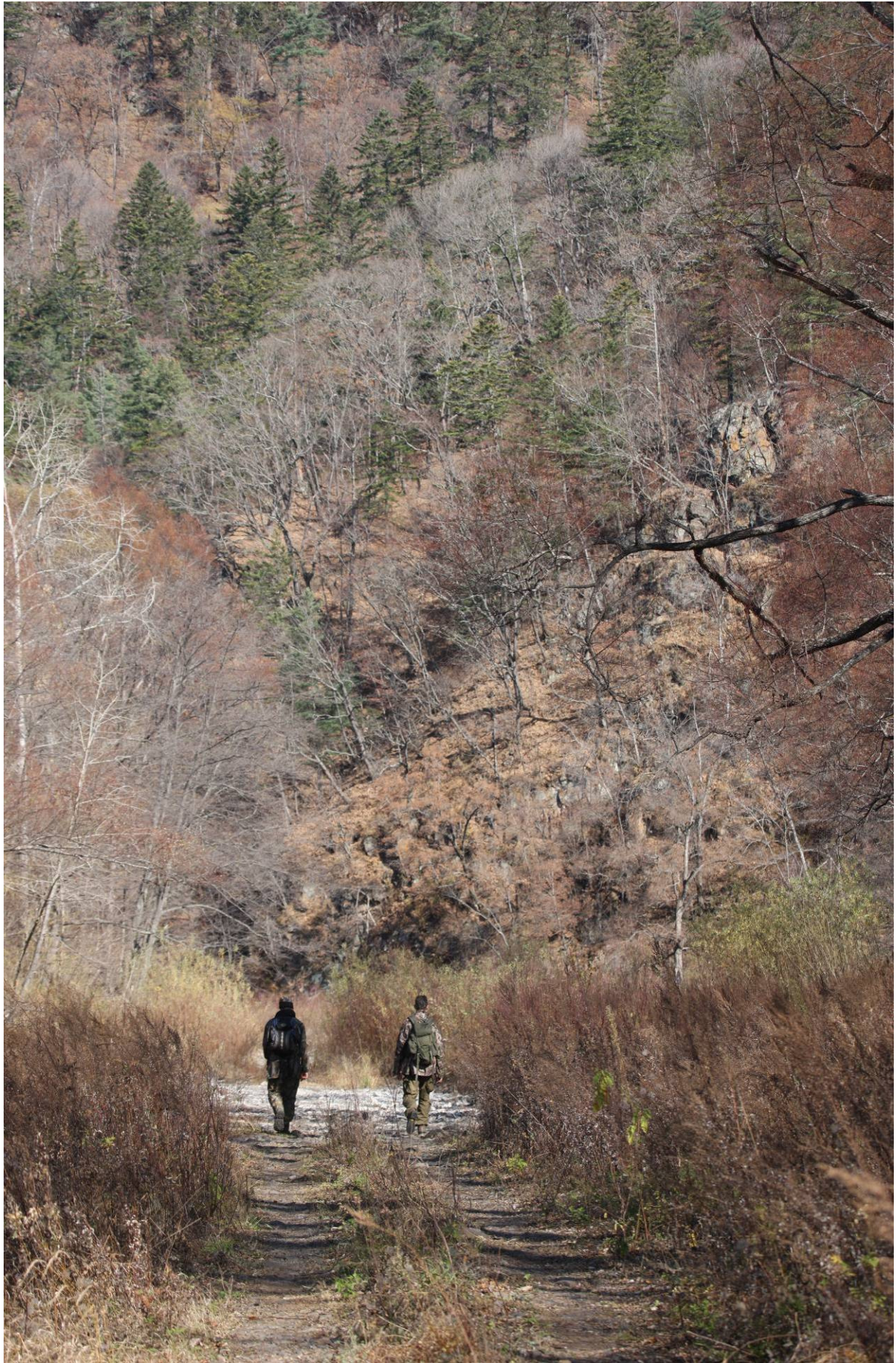
Previous reports on WVI activities with Amur Leopards

These reports are all available on request from WVI:

1. Report on WVI activities in the Amur Leopard Project, Russian Far East, October 2006
2. WVI Amur Leopard Project update – Spring 2007
3. WVI Amur Leopard Project update – Autumn 2007
4. WVI Amur Leopard Project update – Autumn 2008
5. WVI Amur Leopard Project update – Autumn 2009
6. WVI Amur Leopard Project update – Autumn 2010

We would like to thank our sponsors for their generous and continued support of the Amur Leopard Project:

Colchester Zoo's "Action for the Wild" programme
The Friends of Paradise Wildlife Park
Private Charitable Trust (anonymous)
Twycross Zoo
Wildlife Heritage Foundation
Virbac UK



Returning to base after checking snares on a ridge