ALTA Conservation Update

Amur Leopard and Tiger Alliance

September 2007

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New format for ALTA Conservation Updates

The ALTA Conservation Update has a new format. From now on you will find our tiger, leopard and general news items in separate sections. Tigris Foundation will no longer distribute a separate Amur leopard newsletters. Instead, information about Amur leopards will be provided in the ALTA Conservation Updates.

Topics:

Documents and information on Internet

- Campaign against tiger trafficking (documents and films) available at www.tigrisfoundation.nl and www.endtigertrade.org

- The ***Tiger Count 2005*** final report is finally available. The results indicate that tiger numbers have been stable in Russia over the last 10 years (the 1996 count estimated the population at 415-472 tigers and the 2005 count at 428-502). Download report **here**.

- ***Riding the Tiger***, published in 1999, is still the best book available if you want to explore the state of knowledge of tigers in the wild. It is available on the Save The Tiger Fund website.

  - Download the full document **here** (150 MB)
  - View table of contents and download parts of the book **here**

- More information on Amur Leopard Conservation, including details of projects needing funding, www.amur-leopard.org

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ALTA News

1. AMUR – Activities in late 2006 and early 2007 (Sharon Miller and Katya Newman)

AMUR had a busy end to 2006 and an equally busy start to this year. In November 2006 we held a Gala evening at the Moscow Renaissance Hotel where over 200 guests attended. They watched the film 'Conflict Tiger' by Sasha Snow and were entertained with raffles and by music from our Patron Mr Ilya Lagutenko. Ilya announced that his upcoming new Album would be named AMBA, which is the word for tiger used by the Udege Tribe in the Russian Far East. This new album was released in July 2007 and will improve awareness of tiger and leopard conservation among youngsters in Russia. The Gala evening raised about $9000. The first fundraising event for AMUR in 2007 was an art exhibition held in Moscow in April that raised over $10,000. It took a lot of organising because paintings were donated from around the world and the logistics involved in getting the artworks to Russia meant it was extremely hard work! But it was worth it for the amount of money we raised. In addition to the fundraising AMUR has continued with its public awareness work – and has succeeded in getting articles about the tigers and leopards into various high profile magazines in Russia, including Harpers Bazaar and Hello Magazine.

2. Successful ALTA lobby in Moscow (Sharon Miller and Masha Vorontsova)

With a new capture season planned for April and May (see topic 7 in this newsletter) it was imperative that we obtained permission for capturing Amur leopards and tigers for research from the Russian Government. With the Russian Government dragging its feet in issuing the required permits, representatives from Moscow Zoo, AMUR and the International Fund for Animal Welfare met with Mr Oleg Mitvol of the Ministry of Natural Resources to set out the compelling case for the vital field work. Mr Mitvol had the permits issued on the spot allowing the scientists to carry out further studies on leopards and tigers in the Russian Far East!

In addition ALTA Partners - Masha Vorontsova (IFAW), Sharon Mille (AMUR) and John Lewis (Wildlife Vets International) - held a press conference with Mr Mitvol on April 13th at Isvestia News Agency in Moscow. At the conference Mr Mitvol announced an enormous increase in fines for illegal possession and trafficking of leopard and tiger body parts. There were announcements on TV and radio, and later staff members of the ministry confirmed that fines would be increased about 400 times (the maximum fine is presently about $60). We are hopeful that this is the first step towards introducing much tighter legislation concerning poaching and illegal wildlife trade. ALTA members, particularly the International Fund for Animal Welfare, headed up by Dr Masha Vorontsova, will continue to work closely with the Russian Ministry of Natural Resources on these issues. Sergei Bereznuk (Phoenix Fund) and Michiel Hötte (ZSL/Tigris Foundation) prepared an overview for Mr Mitvol of aspects of Russian conservation legislation that could be improved in order to secure a long-term future for Amur leopards and tigers.

Amur Tiger News

3. The International Tiger Coalition (ITC) and tiger trade in China (Sarah Christie)

Chinese tiger farms have been much in the media over the last year as their owners mount a sustained effort to overturn China's 1993 ban on domestic trade in tiger parts for the Traditional Chinese Medicine (TCM) industry. In response to this, thirty-five organisations – including many members of ALTA, as can be seen from the assembled logos – have come together to form the International Tiger Coalition (ITC) which has been actively asking China to make its domestic tiger trade ban permanent. Coalition pressure at and prior to the CITES conference in the Hague in June 2007 included the production of a "tiger mosaic", made up of 25,000 pictures of people encouraging China to keep the ban, which was prominently displayed at the entrance of the conference building. Our efforts succeeded in ensuring the Chinese proposal was withdrawn.

In 1993, when China put in place the domestic ban on tiger trade, licences to trade in tigers were withdrawn from the existing farms. Licences to breed, however, were not withdrawn, and the existing farm owners - and those with farms set up since - have chosen to continue to breed tigers speculatively, claiming to be stockpiling the carcasses in the hope that the domestic ban would be lifted. At least one farm, in Guilin, has been accused of selling tiger meat illegally in the intervening time, as has been documented by DNA testing on a sample of meat served in a restaurant owned by the farm owner. This businessman has been leading the effort to re-open the trade, claiming that he is losing money through the trade restrictions and that if trade is not re-opened he should be compensated to the tune of many millions.

Tiger bodies stock-piled at Guilin farm in China.

A number of consultants, whose participation in relevant international meetings is financially supported by the Guilin tiger farm owner, have advanced suggestions that traditional tiger conservation measures have failed and that it is time to try to protect wild tigers by flooding the market with farmed tiger products which, they argue, would eliminate demand for wild products. Conservationists respond that "traditional" tiger conservation does work if the laws are enforced; that following the Chinese ban tiger numbers in neighbouring Russia recovered from a low in the early 90s and are now stable; that wild tiger products will always be both more desirable to the consumer and cheaper to produce than farmed ones; that once there is a legal trade it forms a cover for illegal trade; and that with so few wild tigers left now and with demand for tiger products in TCM in decline, it would be madness to risk re-opening the trade.

It is important to note that there is no pressure to reopen China's domestic trade in tiger bone coming from either the TCM industry or the general public in China. Substitute medicines are available within TCM for all ailments treated with tiger bone, and the TCM industry has no wish to be perceived globally as driving tigers to extinction. Nor are the livelihoods of small businessmen and their families at risk. The only people who stand to gain by reopening China's domestic tiger bone trade are the rich businessmen who own the farms. These businessmen chose to speculate by breeding tigers despite trade in their parts being illegal; it is their responsibility to deal with the tiger stocks they have bred,, not that of the Chinese government nor of the world's conservation organisations.

In early July a so-called "Tiger Conservation Strategy Workshop" was held in China to address this issue, with sponsorship from the Guilin tiger farm. The ITC had planned to participate, despite the fact that the workshop itinerary began at the tiger farm suspected of

illegal trade in tiger meat, the failure to ensure participation by relevant experts, and the short notice for obtaining visas, flights etc. However, the coalition pulled out at the eleventh hour when the organisers rejected registrations from several key experts who might not have supported tiger farming as a conservation tool. International observers who did attend were shown tiger carcasses piled in freezers; given the proud boasts of the farm owner about how many hundreds of tigers his farm could produce every year, they were left wondering why the farms are allowed to stockpile what amounts to contraband.

The ITC will continue to oppose any lessening of restrictions on tiger trade. Please see **www.endtigertrade.org** and **www.tigrisfoundation.nl** for further information.

(ALTA members 21st Century Tiger, IFAW, WCS, ZSL, David Shepherd Wildlife Foundation and Tigris Foundation have joined the ITC)

4. Orphaned tiger cubs rescued (Anna Filippova, Masha Vorontsova and Maria Scherbacheva)

A total of four female tiger cubs have been rescued in the first half of 2007 and rehabilitated at the private home of Oleg Grinenko of the anti-poaching brigade “Inspection Tiger”.

ALTA partner “Phoenix Fund” has reported four instances of tigers being poached, one tigress that died after a collision with a bus, and six incidents of orphaned tiger cubs, so far in 2007. Three tiger cubs died. These disturbing figures may indicate that tiger poaching is again on the rise.

On the 1st of February loggers found a female tiger cub wandering on a logging road. She had probably been caught by a poacher’s trap as she had seriously injured one paw. Surgeons from the Vladivostok clinic “Alex” performed surgery and had to remove two toes form the injured paw. The cub made a quick recovery and was named "Lapka" (“Little paw” in Russian). On the 17th of February two more starving tiger cubs (also female)

were picked up by loggers and joined Lapka. A fourth famished tiger cub was found on 9th of March after it had killed a dog and hid in the dog kennel.

Claudia Schoene, a veterinarian of the Zoological Society of London, examined the tiger cubs at Oleg Grinenko's home in Razdolnoye village and microchipped them for future identification.

Unfortunately, the orphaned cubs could not be returned to the wild, because they are too young to survive without their mothers and would have lost their fear of humans by the time they were older. When the tiger cubs had recovered and gained strength they were transported to Russian zoos (one to the zoo in Novosibirsk and three to Moscow Zoo), as formally recommended by the Russian zoo breeding programme for tigers. One cub at Moscow was moved to Penza Zoo in Russia and one is destined for Norden Arc in Sweden. The third cub will be transferred to another facility in the Russian or European zoo tiger breeding programmes in due course.

(ALTA partner IFAW provided funding for food and treatment of the cubs and for the construction of two enclosures. IFAW and the "Moskovsky Komsomolets" newspaper asked the public to send support to Phoenix Fund and as a result small donations with a total of $3,290 were sent. Phoenix provided the funds to Inspection Tiger for the rehabilitation of the cubs. ALTA partner Moscow Zoo paid for transporting the cubs to Novosibirsk and Moscow.)

Amur Leopard News

Claudia Schoene and John Lewis performing autopsy.

5. Young female Amur leopard killed (Sergei Bereznuk)

A young female Amur leopard was found dead on 22 April 2007 in the central part of the Amur leopard's range in SW Primorye in Russia near the village Bamburova. Evgeny Stoma and his anti-poaching team found the leopardess after a 3-day search that was started after an anonymous phone call was received with information that a leopard was killed. The young female that had died about a week earlier had not yet produced young. A poacher's bullet had entered near its tail and was found inside the body. Claudia Schoene of the Zoological Society of London and John Lewis of Wildlife Vets International performed the post-mortem and established that the wounded leopard had been killed by hitting it on the head with a heavy object. Unfortunately, the poacher has not been caught.

(ALTA partners IFAW, AMUR, ZSL and Tigris Foundation finance the anti-poaching team led by Evgeny Stoma. Phoenix Fund implements ALTA's anti-poaching activities)

6. Monitoring Far Eastern Leopards with Camera Traps (Dale Miquelle)

WCS and the Institute of Biology and Soils conducted camera trapping to monitor Amur leopards in Neshinskoe Hunting lease and a part of the Boriskovkoe Plateau Zakaznik (Refuge) for the fifth consecutive year. As in past winters, the survey was conducted from early February through the beginning of April, in an area that includes some of the best leopard habitat remaining in Southwest Primorski Krai. A total of 65 photographs of 13 leopards were taken during the survey period.

Winter	Number of camera-trap days	Number of pictures with a leopard	Number of pictures with leopard identified	Number of identified leopards
2003	1136	65	30	9
2004	1490	69	34	13
2005	1646	113	67	14
2006	1281	63	28	9
2007	1254	65	29	13

The number of photographs of leopards was very similar to other years (63-69) except for 2005, as were the number of captures (29-34), again with 2005 being an unusually successful year. Most importantly, after recording only 9 animals in 2006, the number of animals reported in 2007 was 13, close to the maximum for the 5-year survey period. Based on photographs, we believe that the photos were taken of 7 males, 5 females, and interestingly, one cub - the photograph of the cub was taken only a few seconds after a female, presumably its mother - had passed through the camera trap. Also of interest was the “reappearance” of 3 animals in our photographic record after being absent last year. In general, it appears that the population density of our study area has fluctuated, but over the 5-year study period density appears relatively stable.

Our work is done in collaboration with the Institute of Sustainable Development (funded by WWF), which conducts analogous surveys in an adjacent study area to the south in an area that includes Kedrovya Pad and Barsovy Zakaznik (refuge).

7. Medical and Genetic Assessments of wild Far Eastern Leopards and Amur tigers in Southwest Primorye (Dale Miquelle)

In October 2006, WCS and the Institute of Biology and Soils began a new field-based research project designed to collect ecological and biomedical data on Amur tigers and leopards in Southwest Primorski Krai. Here, Amur tigers exist at the southern edge of their current geographic range as a subpopulation isolated from the main population of Amur tigers to the north. These tigers coexist with the remaining population of about 30 Amur leopards, and may have significant impacts on leopards through direct competition. Both populations are small and isolated and hence at risk from potential negative impacts of both inbreeding depression and disease, yet at present there are no data to assess these risks.

Veterinarians J. Lewis (front left) and C. Schoene (front right) examine and collect samples from "Ivan", the first leopard captured on the study, with the assistance of project technicians A. Rybin and V. Shukin.

Our first capture season (autumn 2006) was one of the most successful in 15 years of work in Russia – we captured three adult tigers (two males, one female) and two adult leopards (both males) in one month. We collected blood, tissue, and other samples necessary to identify problems associated with disease and inbreeding for these small populations. While we did not capture any female leopards, tracks of a female leopard with at least one cub were noted in the area. Unfortunately, our second capture season in May 2007 was largely unsuccessful, but we were greatly hampered by deep snows late into the spring which postponed starting dates and limited access to quality capture areas. A male leopard that had been captured in the autumn of 2006 was re-captured and re-sampled.

Melody Roelke, a veterinarian with the Laboratory of Genomic Diversity, National Institute of Health, USA, collected biological materials including blood, tissue, sperm and hair, and conducted medical evaluations of all animals captured in fall 2006. John Lewis of Wildlife Vets International assisted in the spring session, and while only a single large cat was captured, he also participated in capture of small carnivores in a parallel project being conducted by Olga Uphyrkina of the Institute of Biology and Soils. Claudia Schoene of ZSL also assisted with veterinary aspects of both these projects.

Analyses of the biological materials are necessary before any conclusive results can be determined, but preliminary analyses suggest the following:

1. The first leopard captured (Pp01) was dehydrated (8-10%) and was provided intravenous fluids. The reason for dehydration was unclear.

2. Significant heart murmurs were noted for one adult male tiger and an adult male leopard. These murmurs did not appear to be of immediate danger to the survival of these animals and both appeared healthy. However the presence of heart murmurs in two otherwise healthy individuals raises concerns about the health of the overall populations of both species in Southwest Primorye. Heart conditions can have a genetic basis, and may be an indication of inbreeding depression.

3. Sperm was collected from one leopard and one tiger. Preliminary results indicate that both males had >40% abnormal sperm forms (e.g. deformed heads, coiled tails, severely distorted mid-sections). The quick recovery rate of the other two males from sedation prohibited semen collection and evaluation.

4. Clinical laboratory investigations of samples taken in the field demonstrated that all cats had good red blood cell counts (none were anemic), all were negative for feline leukemia virus and feline immunodeficiency virus, and all were negative for heartworms. Serum will be tested to look at the overall health of each individual (serum chemistry panels) and will be screened for exposure to disease agents known to be pathogenic to non-domestic felids.

The critically low number of leopards and tigers remaining in the extreme southwest portion of Russia makes them particularly vulnerable to the insidious effects of inbreeding and to stochastic extinction events, which can be precipitated by infectious disease. The only way to access the clinical, reproductive, and genetic health of the population and to identify specific disease threats is by hands-on evaluations. Our preliminary results suggest that there may be complications associated with small population size and inbreeding depression of both the leopard and tiger populations in Southwest Primorye. Both are probably isolated populations with little or no opportunity for exchange of genetic materials, and we would therefore expect that sooner or later burdens associated with inbreeding depression will arrive in these populations, if they are not already present. However, to understand the current situation, it is critical to continue to capture individuals to monitor population health and status. Without active monitoring and a commitment to assessing the health of a significant percentage of the population, it will be extremely difficult to make useful recommendations to conserve this population.

8. Amur leopard scat collection with dogs (Linda Kerley)

A non-invasive and effective method of studying the elusive Amur leopard is to analyse their faecal material (or scat). It is possible to extract DNA from scats, and thus deduce not only the numbers of cats that were sampled, but also the sex of each animal and ultimately the genetic diversity of the population. This work has already been initiated by a joint project led by the Institute for Sustainable Use of Natural Resources, the University of California in Berkeley (led by Dr. Dale McCullough) and the Hokkaido University in Sapporo, Japan.

Linda and Panda on a high ridge in Kedrovaya Pad which overlooks Korea, China, and the Sea of Japan.

In winter 2007, to assist in scat collection, WCS provided a grant to biologists from Lazovsky Zapovednik (Nature Reserve) who use trained scat-detection dogs; a new and innovative technique to find Amur leopard and tiger scats in the field in SW Primorye. Together with "Dixie and Panda", their scat-detection dogs, Dr. Linda Kerley and Mikhael Borisenko have discovered new information about seasonal distribution and diets, including that leopards catch birds and mice in meadows in spring. Together, they traversed much of the central and northern regions of leopard habitat, and collected a total of 137 leopard and 14 tiger scats. Just as importantly, by daily snow-tracking of leopards in areas where they had found scats, they were able to detect 3 different litters with a total of 5 leopard cubs in the regions surveyed, which suggests that reproduction rates appear to be quite high, at least this year. Additionally, by snow tracking they identified a key corridor along the Narva Pass through which both tigers and leopards moved between Kedrovya Pad and Barsovy Zakaznik. Efforts to protect this critical habitat are needed, as the primary road crosses this pass, and new improvements will make the road even more hazardous for leopards trying to cross it.

9. 2007 Winter Leopard Survey (Dale Miquelle)

Results of the 2007 winter snow track census of the Far Eastern leopard were summarized and released in mid-April 2007. The survey results indicate that 27-32 leopards were counted in southwest Primorye.

The survey, which was conducted in February-March 2007, was primarily organized and financed by WWF, with additional support from WCS, and was implemented by representatives of the Pacific Institute of Geography and the Institute of Biology and Soils (both part of the Russian Academy of Science) as well as staff of both WWF and WCS. A total of 158 transects traversed approximately 1,600 square kilometres across the entirety of southwest Primorye. Shape, size and distance between individual leopard tracks make it possible for scientists to develop an expert assessment of the number of leopards in the region.

Deep snows in February made the fieldwork extremely difficult, and complicated the analysis of collected materials. The survey was overseen by Dimitri Pikunov of the Pacific Institute of Geography, with individual field teams led by Anatolii Belov (head of Barsovy Zakaznik), Vladimir Aramilev (Director of Institute for Sustainable Use of Natural Resources), Pavel Fomenko (WWF) and Ivan Seryodkin (Pacific Institute of Geography). In total 35 fieldworkers participated in the count, including local wildlife biologists, rangers of wildlife refuges and hunting leases, inspectors of the Kedrovaya Pad Zapovednik (Reserve), and rangers of Rossel`khoznadzor (Federal Service of Veterinary and Phyto-Sanitary Supervision).

Results coincide quite closely with surveys over the past 7 years (see table) suggesting that the population is relatively stable. An increase in the number of cubs reported is also welcome news, as it had been a concern that reproduction rates may have been low for this population.

Population Dynamics of the Amur leopard			
Sex and age of leopards	**Year**		
	2000	**2003**	**2007**
Males	4-5	9	7-9
Females without cubs	8-9	7	3-7
Females with cubs	1-2	4-5	4
Cubs in all	1-3	4-5	5-6
Undefined	8-9	4	8-6
TOTAL	**22-28**	**28-30**	**27-32**

Training in how to conduct winter surveys was organised held by WCS on the Chinese side of the border, coincident with the survey in Russia. Transects walked there produced only a single track of a leopard, located directly on the border between the two countries. While leopards have been reported in Hunchun Reserve, the areas where training transects were placed were not in the best potential leopard habitat, so these surveys in China were far from conclusive. Nonetheless, they demonstrate that while there are large tracts of available habitat in China, there is still much that needs to be done for recovery of leopards there.

10. Amur Leopard reintroduction plan (Dale Miquelle)

In February a group of local experts met in Vladivostok to discuss re-introduction of Amur leopards to parts of their former range in south Primorsky Krai in Russia. It was decided at the meeting that four people will take the lead in developing a re-introduction plan: Dale Miquelle (WCS), Vladimir Aramilev (ISUNR), Aleksei Kostyria and Olga Uphyrkina (both of the Institute of Biology and Soils of the local branch of the Russian Academy of Sciences). Yury Darman of WWF will provide administrative and technical support.

Contributions to and approval of the plan will be sought from all local and international experts, afterwhich the document will be submitted to the IUCN Cat Specialist Group and the IUCN Reintroduction Specialist Group for approval. Finally, the plan will be submitted to the Russian Ministry of Natural Resources for endorsement.

A first draft of the plan in English and Russian are expected to be ready in autumn 2007 and preparations of the first releases will take at least three more years. Long-term funding and high-level political support remain to be secured.

11. Amur Leopard North American Population Management Plan (PMP) update (Martha Caron, Minnesota Zoo and PMP Coordinator)

A meeting of the North American Amur Leopard Population Management Plan (PMP) was held at the mid-year Association of Zoos and Aquariums (AZA) Felid Taxon Advisory Group (TAG) meeting in April. As of March 2007, the PMP population consisted of 86 cats (44 males and 42 females) in 39 institutions. In the past year there were 6 (1.5) cubs born, with 1.2 kittens surviving. 2006 saw deaths of 8 (2.6) cats including neonatal deaths for a net loss of two cats. Current founder base is 10 founders. We are currently maintaining just over 85% of the original genetic diversity within the population.

An update on the North American Amur Leopard field conservation initiative was provided by Dr. Ron Tilson who spent time in the Russian Far East in October 2006 meeting with ALTA representatives to explore where the North American PMP might be able to contribute to their efforts.

The Minnesota Zoo is importing a breeding pair of EEP Amur leopards genetically suitable to produce cubs that could be used in a future reintroduction effort. We are assuming that all animals considered for reintroduction will be no more than 20% Founder 2 based on the idea that Founder 2 was not an Amur leopard but a North Chinese leopard. This import will hopefully be complete by spring 2008 and will increase the number of animals within the North American population useful to a potential reintroduction program should it come to fruition. At least 1-2 more pairs still need to be imported to enable the North American PMP to be prepared to be a major player in any future reintroduction efforts.

The second half of our field conservation initiative is a North American fund-raising effort supporting remaining wild Amur leopards. We have so far received funds from the Minnesota Zoo, Utah's Hogle Zoo, Brookfield Zoo, Potawatomi Zoo, Erie Zoo and Sedgwick County Zoo. Donations can be sent to the Minnesota Zoo designated Amur leopard conservation and they will be forwarded to the Amur Leopard and Tiger Alliance. So far, we have raised almost $50,000.

Since submission of this contribution, Martha Caron has left Minnesota Zoo and the Amur leopard PMP is now held by Diana Weinhardt, also of Minnesota Zoo.

12. Amur Leopard EEP (European zoo breeding programme) update (Sarah Christie and Tanya Arzhanova)

The Amur leopard EEP is developing well and now contains 129 leopards, of which 89 are in the breeding pool and 26 are less than 20% founder 2, with another five at just over 20%. From the beginning of 2006 to the present date, 27 cubs have been born of which 20 have survived; of these, five are below 20% founder 2 and a further 19 below 25% founder 2.

Collection of semen samples by the Berlin Institute of Zoo and Wildlife Medicine provided a valuable training opportunity for students from the Primorsky State Agricultural Academy.

Homes have been found or are currently being arranged for most of these, though as we have rather more males than females at the moment, two collections are being asked to retain all-male groups for the next year or two until the sex ratio evens out. A pair has been identified for the PMP in America to improve the genetics there. If all goes to plan, cubs produced at Minnesota from their new leopards will be just below 20% founder 2 and highly ranked in mean kinship terms.

During June samples were collected for disease testing from leopards at Moscow and Novosibirsk zoos, as part of the preparations for possible reintroduction; it is necessary to establish the disease status of stock that could potentially be used to produce young leopards for release, as well as that of wildlife in the target areas. The trip was organised by Moscow Zoo and ZSL, and Dr John Lewis of Wildlife Vets International and Dr Claudia Schoene of ZSL collected the samples. This work was also a valuable training opportunity for students from the Primorsky State Agricultural Academy who are receiving training under ZSL's Darwin Initiative grant, which funded the sample collection, and five of them

accompanied the group and participated in the work. Samples will also be obtained from a selection of zoos in the West; a protocol for this is in preparation and will be circulated soon.

At Novosibirsk Zoo, we were delighted to find that extensive use has been made of the materials supplied through the 21st Century Tiger and Amur leopard websites, on these excellent tiger and leopard graphics.