



Species



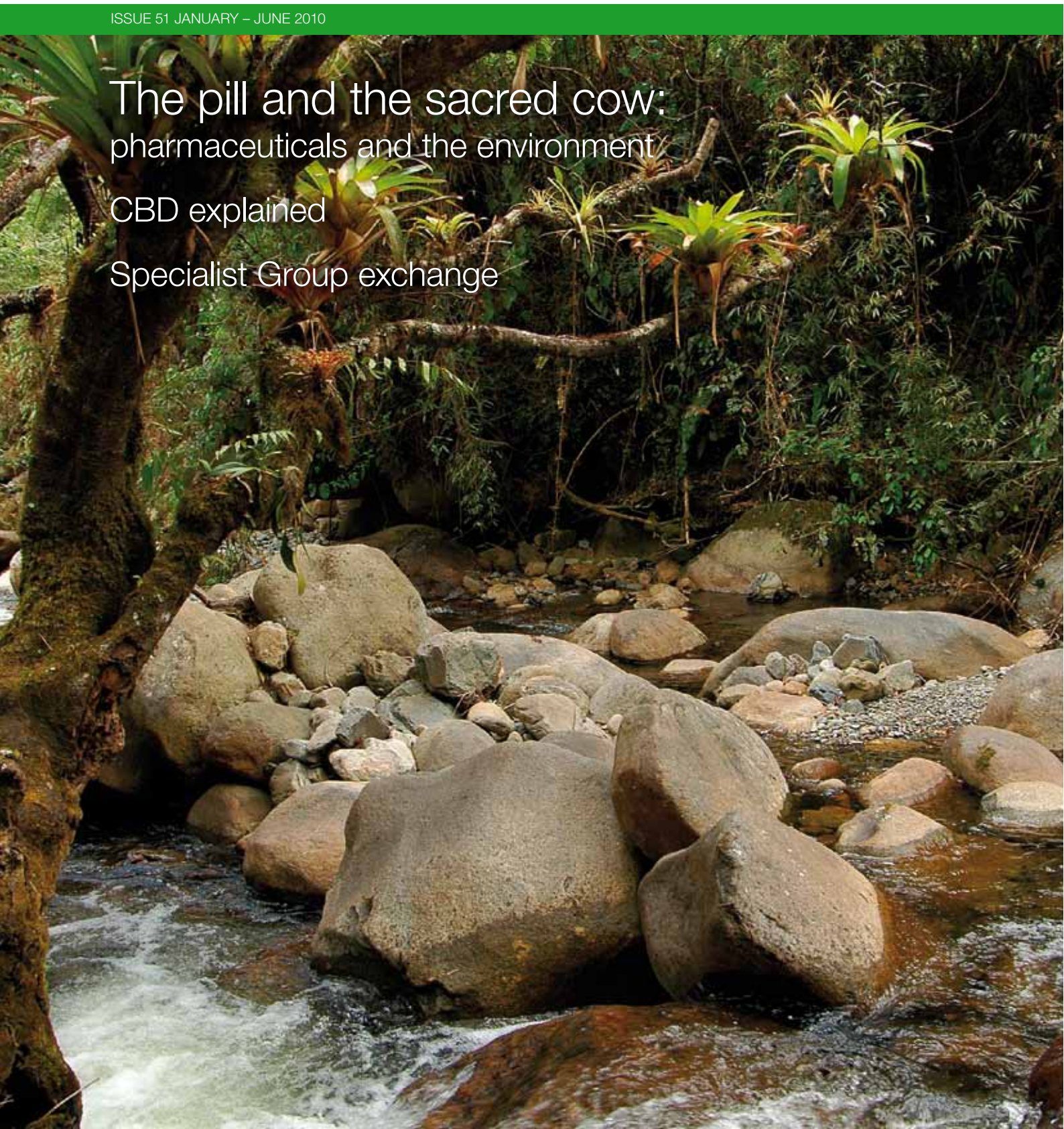
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The pill and the sacred cow:
pharmaceuticals and the environment

CBD explained

Specialist Group exchange



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Species is the magazine of the IUCN Species Programme and the IUCN Species Survival Commission. Commission members, in addition to providing leadership for conservation efforts for specific plant and animal groups, contribute to technical and scientific counsel to biodiversity conservation projects throughout the world. They provide advice to governments, international conventions, and conservation organizations.

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Impatiens nyungwensis © Prof Dr Eberhard Fischer

Editorial

Message from the SSC Chair and the Head of the IUCN Species Programme

In the last issue of *Species*, we provided a very long update, as there was so much to report on over the year since the previous issue appeared. This time we have reverted to our normal six-monthly cycle, and so you will be relieved to learn that the message from us is much shorter!

We are now, of course, in 2010, the International Year of Biodiversity (IYB). This is more than just a branding gimmick with a nice logo. This year, the world's governments have to take some critically important decisions relating to the future of biodiversity and the species that we all care about.

The first thing to note relates to the 2010 Biodiversity Target of the Convention of Biological Diversity (CBD) to reduce the rate of biodiversity loss. Was the 2010 Target achieved? The results of all the official indicators of the target are now in, and the key findings are given in the 3rd Global Biodiversity Outlook, and summarized in an important paper published in *Science* by Stuart Butchart and over 40 colleagues (including many SSC members), entitled "Global Biodiversity: Indicators of Recent Declines". The overall picture is pretty depressing. The rate of biodiversity loss is not slowing, while the pressures on biodiversity are growing rapidly. But most worrying of all, the rate of increase in responses to these pressures has slowed since 2002 when the target was set. In other words, the gap between the pressures and the responses is widening, and the only possible result of this is acceleration in biodiversity loss and species extinctions, with growing risks to human wellbeing.

Why is this gap widening? Simply because the political will is lacking to pay the costs of saving biodiversity, even though the recent report on *The Economics of Ecosystems and Biodiversity (TEEB)* has indicated that the costs of inaction are likely to be far greater than the costs of action. The current level of international assistance for biodiversity has been estimated at a startlingly low figure of US \$2 billion per year. The draft papers for the new CBD Strategic Plan call for a ten-fold increase in international biodiversity assistance by 2020. IUCN has gone further and is calling for each OECD country to contribute at least 0.3% of GDP to international biodiversity assistance, in addition to the 0.7% already committed for international development assistance. At today's prices that is US \$120 billion per year. Economists will argue about what the correct number is to secure a future for biodiversity and ourselves, but all will probably agree that it is between one and two orders of magnitude higher than what is being spent now.

But will we do it? We are convinced that if we do not, we will soon come to regret our short-sightedness. However, we



Tiger Treefrog (*Hyloscirtus tigrinus*) from Magdalena Lake in the Colombian Andes. © F. José López-López

have a problem in our own ranks. As conservationists, we are used to thinking small. We fear that the sorts of figures we have given in the above paragraph are not politically realistic (and there are plenty of people out there to tell us that this is so), and so we set our sights way too low and then wonder why conservation goals become ever more elusive. As long as we continue to suffer from a monumental lack of ambition in the conservation movement, we shall have, at best, isolated local successes against a backdrop of continuing deterioration. We have to break out of our traditional mindset if we are to succeed.

By the time you read this, the world's governments will already be far advanced in their negotiations to agree a new set of targets for biodiversity conservation post-2010. At present, it looks as if they will agree an overall biodiversity vision for 2050, a biodiversity mission for 2020, and a series of targets also for 2020. The final agreements on this will not be concluded until the CBD Conference of the Parties in Nagoya, Japan, in October 2010.

IUCN and SSC have played an active role in advising governments during these negotiations, and progress so far has been encouraging. IUCN has a position paper called "A New Vision for Biodiversity Conservation" on the CBD post-2010, which has already been circulated to SSC members (additional copies can be obtained from species@iucn.org). In putting together this paper, we have focused in particular on the urgent need for the world to take action now to address the drivers of biodiversity loss if we are to start seeing significant signs of success. We have therefore proposed the following mission: *to have put in place by 2020 all the necessary policies and actions to prevent further biodiversity loss*. The achievement of this mission will certainly require a massive increase in funding for biodiversity conservation, as indicated above.

In the context of this mission, IUCN is proposing 20 specific targets for 2020, including, among others: halting the loss and degradation of forests and other natural habitats; eliminating overfishing and destructive fishing practices; sustainably managing all areas under agriculture, aquaculture and forestry; bringing pollution, from excess nutrients and other sources, below critical ecosystem loads; controlling pathways introducing and establishing invasive alien species; reducing impacts of multiple pressures on coral reefs and other vulnerable ecosystems affected by climate change and ocean acidification; effectively protecting at least 15% of land and sea, including the areas of particular importance for biodiversity; and preventing the extinction of known threatened species. The exact wording that is finally agreed on all of these targets is extremely important, as it will tell us how ambitious the governments are prepared to be; it will also define the global political context in which the SSC will have to operate over the next ten years, perhaps longer. This is why we are taking these negotiations so seriously.

In addition to engaging with the very important, but complex, negotiations on the post-2010 target framework, we have also launched an important new initiative of our own to raise the profile of the IYB: Species of the Day. As many SSC members know, since 1 January we have featured a new species every day since the beginning of the year. We have highlighted an amazing variety of species, ranging from the extremely well known, such as the Polar Bear and the African Elephant, to lichens, cup fungi, seagrasses, conifers, cycads, oaks, baobabs, legumes, palms, rock-roses, mangroves, corals, mussels, snails, dragonflies, millipedes, wetas, sharks, skates, coelacanths, eels, groupers, wrasses, catfish, frogs, salamanders, crocodiles, turtles, tortoises, snakes, lizards and a wide variety of birds and mammals. I think it is fair to say that only the SSC could have produced such an attractive and informative profiles on such a broad range of species in such a short time. Each species profile includes a photo, text and a distribution map. Pulling all this together has been a massive effort, superbly led by Rachel Roberts, and ably assisted by Kathryn Pintus, Vineet Katariya, Julie Griffin, Dena Cator, Jim Ragle and many others in the Species Programme, and a great writing team at ARKive led by Michelle Lindley and Lucie Muir. SSC Specialist Groups have done a great job in reviewing the texts and sourcing photos, and UNEP has provided generous financial support. Species of the Day has generated enormous interest among the public. By April, 600 websites and blogs were using the Species of the Day button, and we now have over 900 followers on Twitter. The number of visits to the Red List website has also increased significantly.

Of course, other important activities have continued, despite all this frenzy relating to IYB. One particularly important one for the SSC was the 14th Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which took place in Doha in March. IUCN was present in force, and a number of SSC Specialist Groups were well represented – for example Sharks (Sonja Fordham and Sarah Fowler), Groupers and Wrasses (Yvonne Sadovy), Crocodiles (Grahame Webb and Tom Dacey), Tortoises and Freshwater Turtles (Peter Paul van Dijk), African Elephants (Holly Dublin

and Diane Skinner), Asian Elephants (Simon Hedges) and African Rhinos (Richard Emslie). In the months leading up to the conference, IUCN and TRAFFIC had worked on producing the *Analyses of Proposals to Amend the CITES Appendices*, which is the key document in terms of providing the best science to the governments to guide them in their decisions on listing proposals. This is the ninth time that we have produced the Analyses, and Thomasina Oldfield and her team did a truly outstanding job in pulling together the impossible within the extremely tight CITES deadlines.

The IUCN delegation at the CITES conference was led by Sue Mainka. Dena Cator did an enormous amount of work, both before and during the conference, to organize the delegation and make sure that we were on top of all the issues. The conference itself was dominated by proposals to list several species of shark and the Bluefin Tuna on the CITES Appendices, and to transfer the African Elephant populations of Tanzania and Zambia from Appendix I to Appendix II. These proposals generated an enormous amount of controversy, both in the media and in the conference itself, and all of them failed to secure the necessary two-thirds majority to pass. There are inevitably questions as to whether or not CITES will be able to break out of the deadlock that it currently faces on these highly controversial issues. The role of CITES in relation to commercial fisheries remains as hot a topic as ever. Despite these controversies, the CITES conference achieved a lot, for example: the Mexican population of Morelet's Crocodile was transferred from Appendix I to Appendix II, as was the Egyptian population of the Nile Crocodile; and the Critically Endangered Kaiser's Newt from Iran was added to Appendix I. SSC Specialist Groups were heavily involved in detailed negotiations to improve the management and control of unsustainable and illegal trade, for example, in the Humphead Wrasse and in rhinos. In both of these cases, the relevant SSC Specialist Groups, working with TRAFFIC, produced detailed reports that appeared in the formal meeting papers, and which were very influential in guiding the debate.

Another major event of the past six months has been the publication of a short paper in the Policy Forum section of *Science* magazine entitled "The Barometer of Life". This paper, on which Simon is the lead author, is co-authored by Edward O. Wilson, Jeff McNeely, Russ Mittermeier and SSC Deputy Chair Jon Paul Rodríguez. It calls for a major investment in broadening the taxonomic base of the IUCN Red List so that it can truly fulfil its enormous potential as The Barometer of Life.

Some other highlights of the past six months include:

1. **Save Our Species (SOS).** Work on establishing the SOS Fund is progressing well, and the first US \$ 1 million from the World Bank has now been confirmed. The formal project proposal for the full US \$10 million has been completed, and is awaiting formal approval from the CEO of the Global Environment Facility. Meanwhile, the SSC Advisory Group on SOS has been formed to help guide the setting of priorities for the projects to be supported. It is being chaired by Luigi Boitani from the SSC Steering Committee.

- 2. Re-introduction Guidelines.** The work on revising and updating the Re-introduction Guidelines has now started, thanks to generous support from the Al Ain Wildlife Park and Resort. The initial planning meeting has now been held. The process is being led by the Re-introduction Specialist Group, chaired by Frédéric Launay, and the Invasive Species Specialist Group is also heavily involved.
- 3. Species Conservation Planning.** The new Species Conservation Planning Sub-Committee, chaired by Mark Stanley Price, is now in the process of being formed, and Specialist Groups will soon be hearing more about this. This initiative is also generously supported by the Al Ain Wildlife Park and Resort.
- 4. Integrated Biodiversity Assessment Tool (IBAT).** We reported on IBAT in the last issue of *Species*. Through IBAT, the World Database on Protected Areas, Important Bird Areas, Key Biodiversity Areas and the IUCN Red List are brought together in an online tool to support the private sector, development banks and others in making sound decisions that take full regard of the available conservation-related data. After months of negotiating, the formal IBAT Agreement has just been finalized between IUCN, UNEP-WCMC, BirdLife International and Conservation International.
- 5. Red List progress.** An update of the IUCN Red List took place in late March 2010, focusing especially on European invertebrates. This update also covered sturgeon species globally (for which a shocking 85% of species are threatened, and 63% are Critically Endangered (with some possibly already Extinct)). There will be further public updates in September and October this year, and the findings from these updates will be particularly important in influencing the final biodiversity negotiations taking place in Nagoya in October. Meanwhile, we are very close to concluding the new Red List Partnership Agreement, which has been in complex negotiations for several years. This expands the Red List Partnership by bringing in five new organizations: Botanic Gardens Conservation International; Royal Botanic Gardens Kew; Texas A&M University; University of Rome “La Sapienza”, and Wildscreen. These join IUCN and the existing Partners: BirdLife International; Conservation International; NatureServe; and, the Zoological Society of London. The Red List Partners are organizations that agree to commit resources (financial and in-kind) to support the work of the IUCN Red List. The expansion of the Partnership is extremely good news for the SSC, and a vote of confidence in the Red List. At a much more technical level, in January the SSC Standards and Petitions Sub-Committee and Red List Technical Working Group both met to work through a range of issues relating to the Red List and the underlying software – the Species Information System (SIS). Among the outputs of this work is version 8.0 of the Guidelines for Using the IUCN Red List Categories and Criteria, now available on the IUCN Species website.
- 6. Climate change.** Part of the work of the Standards and Petitions Sub-Committee meeting in January was to develop preliminary guidelines on the use of the IUCN Red List Categories and Criteria in the face of climate change. These preliminary guidelines can be found on pages 70–81 of version 8.0 of the Guidelines for Using the IUCN Red List Categories and Criteria. Work now needs to start on developing the full Red List climate change guidelines, and we are currently seeking funding for this. Meanwhile, the SSC Steering Committee decided in its January meeting in Venezuela to establish a new SSC Task Force on Climate Change, with the job of providing strategic guidance and oversight to our work in this area. We are currently considering whom to invite to chair the new Task Force; Wendy Foden will provide back-up from the Species Programme.
- 7. Amphibian Survival Alliance (ASA).** Good progress has been made in the formation of the ASA to address the amphibian extinction crisis. We now have funding committed from Chester Zoo, Conservation International, Frankfurt Zoo, Frankfurt Zoological Society, Wildlife Conservation Society, Zoological Society of London and from former SSC Chair George Rabb. We would like to express our thanks to each of these for their extremely generous support. This funding is now sufficient to enable us to move ahead to recruit the staff for the ASA and to get the programme running. We look forward to reporting on progress in the next issue.
- 8. New SSC Specialist Groups.** The SSC Steering Committee approved the establishment of several new Specialist Groups. A new Small Mammal SG (covering rodents, hedgehogs, shrews and tree-shrews) is in the process of being formed, and co-chairs are being recruited. The new Viper SG will be chaired by Chris Jenkins, the new Chameleon SG by Richard Jenkins and the new Grasshopper SG by Axel Hochkirch. It was also agreed to re-establish the former South Asian Invertebrate SG, and the chair is currently being agreed. In addition, the re-establishment of the Bustard SG, agreed at the previous meeting, has now taken effect, and the new chair is Olivier Combreau. Please join us in welcoming each of these SGs into the SSC family.
- 9. SSC Freshwater Conservation Sub-Committee.** The SSC is governed by a Steering Committee, under which sit a number of sub-committees which oversee key parts of the SSC programme (the current sub-committees cover marine, plants, invertebrates, the Red List programme, Red List standards and petitions, and species conservation planning). The Steering Committee decided that a new sub-committee is needed to cover freshwater biodiversity and to drive forward our work in this critically threatened set of ecosystems. Topiltzin Contreras has been appointed as the Chair of the Freshwater Conservation Sub-Committee, and we are most grateful to Chester Zoo for funding the costs of its first meeting.
- 10. Recognizing SSC members.** The Steering Committee also decided that we are not recognizing long-serving,

hard-working SSC members appropriately. Accordingly, it was decided to revamp the SSC awards, and some of the membership categories, in order to give the recognition that is in many cases due. More details will be provided to SSC members over the coming months, but we can let you know now that we agreed to re-establish the SSC Roll of Honour, which includes a very limited number of people who have made extraordinary leadership contributions to the Commission. The Roll previously included HRH Prince Bernhard, Lieut. Col. C.L. Boyle, Richard Fitter, Maisie Fitter, Kai Curry-Lindahl, Boonsong Lekagul, Ian Grimwood, Grenville Lucas and Alexey Yablokov. The new members of the Roll of Honour agreed by Steering Committee are: Sir Peter Scott, George Rabb, Ralph Daly, Lee Talbot and Hal Coolidge.

There is much more that we could write, as the activity level in the SSC, ably supported by the Species Programme, is a wonder to behold. We conclude with an update on something reported in our last Editorial. We told you how the IUCN Director General, Julia Marton-Lefèvre, had written to the Prime Minister of China concerning proposals to place a barrage at the outlet of Poyang Lake, where 98% of the world's Siberian Cranes spend the winter. Following this letter, the proposals to build the barrage were put on hold

while the government requested a full environmental assessment. SSC scientists, led by Jim Harris, chair of the Crane Specialist Group, working with the IUCN Office in China and the IUCN Water Programme, are now pulling together a major study which we believe will be an important contribution to the overall assessment. We very much hope that this will ensure that the extraordinary and irreplaceable biological values of Poyang Lake are fully taken into account in the decisions expected in the coming months. To us, this is a powerful example of the SSC and IUCN Secretariat working closely together on an issue of critical international importance, and we hope that it leads to the long-term conservation of Poyang Lake.

We would like to thank all of you, both in the SSC and on the staff, for your continued dedication to the cause of saving the world's species, for their own sake and for the good of humanity.

Simon Stuart

Chair, IUCN Species Survival Commission

Jane Smart

Head, IUCN Species Programme
Director, Biodiversity Conservation Group

The pill and the sacred cow

Current areas of concern with pharmaceuticals and the environment

By **R.A. Kock**¹ Co-Chair, IUCN Wildlife Health Specialist Group

Anthropogenic impacts on the natural world are increasing at an unprecedented rate; these parallel the human population growth and that of their domesticated animals. Who would have thought that medicines would ultimately pollute and threaten the natural world? The experience of diclofenac, a popular non-steroidal anti-inflammatory agent driving vultures close to extinction, has taken this from fantasy to reality. Humans will not give up medicines easily, but what are the issues and what is the real scale of the threat? Can people, society or governments effectively mitigate against this risk?

Improved analytical methods (Focazio *et al.*, 2004) and increasing concern has led to research and evidence of actual and potential ecotoxicological risks from pharmaceutical drugs entering the environment. The presence of these drugs in the environment is a fact, albeit mostly detected at extremely low levels. A significant number of agents have been identified as presenting some risk and need to be further evaluated (Boxall, 2004). Some of these chemicals are persistent, potentially cumulative, or can act synergistically with others to produce an effect on living organisms.

Chemical characteristics of pharmaceuticals tend to lead to them ending up in water bodies (Breton and Boxall, 2003), and most of the attention to date has been directed at field run-off and sewage systems. Conflicting this dogma, the contamination of cattle carcasses in South Asia with diclofenac, a drug used in both human and veterinary medicine, took the industry, research and conservation communities by surprise. This was now a terrestrial problem, and totally unforeseen. The issue only came to light long after the drug was released onto the market and after the three species of *Gyps* vultures, once super-abundant on the sub-continent, were brought to virtual extinction. The drugs were by then generic, and produced in huge quantities by a myriad of small and large manufacturers locally and across the world.



Zebu (*Bos taurus*). © Richard Kock

In Hinduism, the cow is considered to be a god, and as such must die a natural death. As a result, large numbers of sacred cows were treated in their old age with diclofenac to ease their pain and discomfort prior to death. The drug then accumulated in carcasses at concentrations lethal to vultures across their range. The acute sensitivity of vultures to this drug and its pharmaceutical family (NSAIDs) was confirmed, and the issue was finally exposed (Green *et al.*, 2006, Taggart *et al.*, 2006). The human pharma-industry does not readily accept any blame for the vulture tragedy, which they consider to be a veterinary problem.

The only other environmental impact currently accepted by the research community to be a result of normal use of human pharmaceuticals is the problem arising from the widespread use of the human birth-control pill. Synthetic oestrogens, together with natural oestrogens and oestrogen mimics, have caused feminization of male fish (Nagler *et al.*, 2001).

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The industry claims that they are vigilant, and that the process of research and development is highly structured and predictive. However, the process of pharmaceutical evaluation is largely oriented to reduce human or domestic animal toxicity. Until relatively recently, there has been little consideration of the toxicity to the environment or to perceived non-target species. The vulture story might be an extraordinary event, but extinction is a tragedy and should not be understated. What is clearly a concern is that regulations to protect against this sort of eventuality, and controls over the manufacturing industry for pharmaceuticals, are not effective in most developing countries. This results in large quantities of cheap, and often suspect, biologically active chemicals entering the food chain and the environment.

Pharmaceuticals: their development and regulations to prevent potentially negative environmental effects

The diclofenac tragedy and the increasing evidence of the impacts of environmental oestrogens on higher vertebrates affected confidence in the industry and its ability to self-regulate and prevent such events from occurring. Even prior to this, lobby groups were encouraging governments to bring in tighter controls.

Two main risk mitigation strategies were employed:

1. To improve the detection of potential environmental toxins arising from pharmaceuticals during the research and development stage.

The testing regimes for human and veterinary products are designed to best predict the effects on the environmental systems where they are most likely to occur, as a result of recommended use and based on knowledge of the chemical and physical properties of the active ingredient(s). Emphasis is currently on aquatic processes and risks, and the laboratory animals used to establish avian and mammalian LD50s¹ are selected largely on convenience. As such, there is a need to identify more surrogate species to ensure transferable results. Currently, tests do not address the risk to biodiversity, and toxicity tests are mostly based on short-term and single-drug studies. There are few chronic toxicity tests, and little consideration is given to the potential cumulative effects of chemicals.

2. To improve the control over the inappropriate use and disposal of pharmaceuticals.

A weak area of risk assessment is on the predicted use patterns, likely disposal routes, and degree of environmental exposure across different ecosystems. The procedures have been largely developed in countries with sophisticated social

¹ LD50 is the dose of drug necessary to result in the mortality of 50% of the test species



infrastructure and effective disposal systems. Assumptions are made in risk assessments for most products developed in the US and Europe, but not for worst-case scenarios that often occur in developing countries. Here, pharmaceuticals are rarely used according to manufacturers' recommendations, cross-species use is uncontrolled, and disposal of pharmaceuticals is most certainly not carried out according to recommendations.

Where does the responsibility for contamination and the after-effects lie, and what policy could reduce the risks?

IUCN and the SSC became involved in this issue in 2006, recognising that pharmaceuticals in the environment, through rising use and abuse, were indeed a threat to biodiversity and its conservation. A series of ad hoc meetings under the auspices of the IUCN SSC Wildlife Health Specialist Group (WHSG) were held with NGOs and various industry and government agencies in the United Kingdom, culminating in a workshop at the World Conservation Congress in Barcelona in 2008. The idea was to increase understanding and awareness of the problem, and identify gaps in knowledge, research and policy needs.

The approach to ensuring safety of pharmaceuticals in the environment (PIE) is currently focussed on potential impacts of medicines on species most likely to be exposed, together with monitoring background levels in the environment (water and terrestrial ecosystems). With new pharmaceuticals, the regulators and the applicant attempting to register a pharmaceutical work together on the testing protocols within the guidelines set down under the legislation. There is currently little scope for concerned

parties to influence the process if ecotoxicological risk for a particular non-target species is identified, other than through changes in legislation/regulation. Inevitably, the parties cannot take into account all species sensitivities and food chain anomalies, as demonstrated by the diclofenac vulture poisoning.

The question as to whether the framework for veterinary pharmaceutical risk needs to be changed, following the discovery of the impact of NSAIDs on vultures, has been raised and this problem is likely to continue to influence developments in the future. The fact is that much of the present EC and other legislation governing pharmaceuticals and the environment are providing even greater margins of safety than hitherto. Biopharmaceuticals are likely to reduce environmental residues, and improved understanding of pharmacokinetics will lead to improved targeting, delivery and specificity with shorter therapies i.e., smaller residues. It is hoped this will reduce the risk significantly, but time will tell. Nevertheless, there is a need to look at all current NSAIDs and their potential for toxicity, especially for scavenging birds in light of the diclofenac history.

Despite global efforts there has been little progress in preventing the decline of the free-living *Gyps* vultures in the Indian subcontinent. The exact reason for this is complex. It appears diclofenac remains available in the South Asia region despite a ban on the production of veterinary diclofenac, and contamination of carcasses most probably continues. Alternate drugs (e.g., meloxicam) have been identified and tested, but their uptake is limited due to marketing constraints and resistance from farmers for various reasons (Cuthbert *et al.*, 2006). The impacts of other potentially toxic substances, especially NSAIDs, in the scavenger food chain in that region and globally remain unknown. The effect of oestrogenic substances on water ecology continues to be monitored, but despite this the situation is not improving visibly.

It is in the interests of both the pharmaceutical and conservation perspectives to ensure that an issue such as that involving diclofenac and vultures does not occur again, and that known problems, including cumulative oestrogens in the environment, are resolved. IUCN SSC will do all it can to support this.

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References

- Breton, R. and Boxall, A. (2003) Pharmaceuticals and personal care products in the environment: regulatory drivers and research needs. *QSAR Comb Sci*; 22:399–409.
- Boxall, A. (2004) The environmental side effects of medication *EMBO reports* 5 (12) 1110–1116.
- Cuthbert, R., Parry-Jones, J., Green, R.E. and Pain, D.J. (2006) NSAIDs and scavenging birds: potential impacts beyond Asia's critically endangered vultures. *Biol. Lett.* doi:10.1098/rsbl.2006.0554 Published online.
- Focazio, M.J., Kolpin, D.W. and Furlong, E.T. (2004) Occurrence of human pharmaceuticals in water resources of the United States: a review. In: Kümmerer K, editor. *Pharmaceuticals in the Environment: Sources, Fate, Effects and Risks*. 2nd edition, Berlin, Germany: Springer; 2004. p. 91–105.
- Green, R.E., Taggart, M.A., Das D., Pain, D.J., Kumar, C.S., Cunningham, A.A. and Cuthbert, R. (2006) Collapse of Asian vulture populations: risk of mortality from residues of the veterinary drug diclofenac in carcasses of treated cattle. *Journal of Applied Ecology* 43, 949–956.
- Nagler, J.J., Bouma, J., Thorgaard, G.H. and Dauble, D.D. (2001). High Incidence of a Male-Specific Genetic Marker in Phenotypic Female Chinook Salmon from the Columbia River. *Environmental Health Perspectives* 109:67–69.
- Taggart, M.A., Cuthbert, R., Das, D., Sashikumar, C., Pain, D.J., Green, R.E., Feltre, Y., Shultz, S., Cunningham, A.A. and Meharg, A.A. (2006) Diclofenac disposition in Indian cow and goat with reference to *Gyps* vulture population declines. *Environmental Pollution* doi:10.1016/j.envpol.2006.08.017.



CBD explained

By Dena Cator

During the International Year of Biodiversity, governments and organizations from around the world will convene at the Convention on Biological Diversity (CBD) to address the issue of biodiversity loss. This article outlines the background to the CBD, the activities planned, IUCN's role and how SSC members can participate.

Background

In response to increasing worldwide biodiversity loss, the UN Environment Programme (UNEP) started working in the late 1980s/early 1990s to develop an international treaty to address the issue. The result was the creation of the CBD, its intent being to: enable the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits from using genetic resources. The CBD Convention was presented for signing in June 1992 at the UN Conference on Environment and Development (the Rio "Earth Summit"). It entered into force in December 1993 and possesses a number of thematic programmes of work as well as cross cutting issues (see: <http://www.cbd.int/programmes/>).

In 2002, 10 years after the CBD was put forward for signing, its Parties adopted a Strategic Plan which included as its mission the target of achieving by 2010 "a significant reduction of the current rate of biodiversity loss at global, regional and national levels as a contribution to poverty alleviation and to the benefit of all life on Earth" – this has been known as the 2010 Biodiversity Target. The target has subsequently been endorsed by the World Summit on Sustainable Development and the UN General Assembly (UNGA), as well as incorporated into the UN's Millennium Development Goals (MDGs), eight international development goals that all UN member states and a number of international organizations have agreed to achieve by the year 2015 (see: <http://www.un.org/millenniumgoals/>).

This Strategic Plan had four main goals with accompanying targets (see: <http://www.cbd.int/sp/>):

- Goal 1: The Convention is fulfilling its leadership role in international biodiversity issues.
- Goal 2: Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention.
- Goal 3: National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention.
- Goal 4: There is a better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation.

Progress on achieving the 2010 Biodiversity Target

Almost 20 years after the CBD was created, 192 countries have become Parties to the Convention. Nine meetings of the Conference of the Parties have taken place where the evolving content and progress of the work to be undertaken has been decided. National action plans have been initiated in 170 countries to date (see: <http://www.cbd.int/nbsap/>), which provide the platform for national governments to implement the goals and targets of the CBD and provide a framework for conserving biodiversity in their own jurisdictions.

However, much remains to be accomplished and it is generally agreed that we have missed the CBD's target of reducing the rate of biodiversity loss by 2010. A paper published in *Science*¹ in April 2010 found no evidence for a significant reduction in the rate of decline of biodiversity loss, confirming that world leaders have failed to deliver commitments made in 2002 to reduce the global rate of biodiversity loss by 2010. The findings are from a study by the Biodiversity Indicators Partnership (BIP), a collaboration of more than 40 international organizations and agencies, including IUCN, which carried out the first comprehensive assessment on implementation of the 2002 targets for the CBD. The third edition of Global Biodiversity Outlook (GBO3) (see: <http://gbo3.cbd.int/resources.aspx>), a CITES Secretariat and UNEP-WCMC led publication that provides an overview of progress made on implementing the CBD and the 2010 Biodiversity Target, incorporated the findings of BIP and thus concludes that we are continuing to lose biodiversity at a rate never before seen in history.

The new CBD Strategic Plan for post-2010

Following a wide consultation, the CBD has developed a proposal for a new post-2010 Strategic Plan that includes five revised strategic goals and 20 new targets to be met by the year 2020. The proposed plan is available at <http://www.cbd.int/doc/meetings/sbstta/sbstta-14/official/sbstta-14-10-en.pdf>.

The revised CBD Strategic Plan, including its goals and targets, reflects two major shifts from the original 2010 Biodiversity Target. First, the CBD Secretariat has used a "driver, pressure, state, impact, response" framework to outline the new goals and targets. This means that the targets are much more specific and applied than pre-2010

¹ Butchart, S. *et al.* (2010) "Global Biodiversity: Indicators of Recent Declines" *Science*, Vol 328. 30 April 2010.

– a result of the Parties and the Secretariat's concern that previous targets were not specifically addressing the drivers or pressures of biodiversity loss. Another shift was to make the new targets SMART – Specific, Measurable, Achievable, Realistic and Time-bound.

Progress and success in achieving these Strategic Plan targets will be measured through indicators, overseen by the Biodiversity Indicators Partnership (BIP), which are currently planned to be fully developed after the new post-2010 Strategic Plan has been agreed upon. In addition, for some of the work within the targets, milestones have been set for accomplishment earlier than 2020.

2010 activities

This is the year that CBD's 2010 Biodiversity Target will be assessed and a number of CBD meetings will take place that will decide the future direction of the CBD Strategic Plan and post-2010 targets. Two of the main meetings are the 14th meeting of the scientific advisory body to the convention, known as the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), which was held in May in Nairobi, and the 10th Conference of the Parties meeting (CoP10), which will occur 18–29 October in Nagoya, Japan.

The purpose of SBSTTA meetings is for country delegations to review the scientific and technical basis for various changes to components of the Convention and make recommendations to the CoP that will inform their decisions. For more information on the agenda items discussed at SBSTTA and the documents, see: <http://www.cbd.int/doc/?meeting=SBSTTA-14>. The proposed new Strategic Plan, including its goals and targets, was the main focus of negotiations at SBSTTA. At the time of writing the Working Group on the Review of Implementation (WGRI) meeting was in session immediately following SBSTTA and was to make recommendations on concrete approaches for its implementation.

At CBD CoP10 in October, Parties to the CBD will finalize and sign-off on the documents and associated recommendations related to the various programmes of work for CBD, including the new Strategic Plan (and post-2010 Biodiversity Target). For more information on the agenda items being discussed at CoP10 and the documents, see: <http://www.cbd.int/doc/?meeting=COP-10>.

IUCN's role and position on CBD

IUCN contributed several position papers for the May 2010 SBSTTA meeting to inform and influence the views and opinions of Parties to the CBD, and new position papers will be created for CoP10. The consultation to develop IUCN's position on the post-2010 Strategic Plan for SBSTTA was one of the most substantial that IUCN has undertaken – hundreds of comments from IUCN members and commission members were considered and integrated. The resulting paper makes specific recommendations for the 2020 mission, 2050 vision and framework of five goals and 20 targets. Suggestions regarding how the 2020 mission can be achieved relate to: finances; engagement with the economic

sector and the development community; cohesion between Multilateral Environmental Agreements and other organizations; research, monitoring and assessment; engagement with the public sector and other stakeholders; communications; as well as other support mechanisms.

A number of recommendations made in this position paper were mentioned by Parties during negotiations at SBSTTA, indicating that the paper had a substantial impact on Parties' positions on the matter. All of IUCN's position papers for SBSTTA, including IUCN's position on the post-2010 Strategic Plan, are available here: http://www.iucn.org/about/work/programmes/global_policy/.

IUCN believes that it is essential that the new Strategic Plan link to the Programmes of Work and other components of the CBD, such as the Global Strategy for Plant Conservation (GSPC) or the Programme of Work on Protected Areas (PoWPA). Each thematic programme should thus clearly state which targets it contributes to in the Strategic Plan.

IUCN outlines in its position paper that a 2050 Vision for the CBD Strategic Plan should aim not just to halt loss of biodiversity but also comprehensively restore the populations, habitats and ecological cycles that enable biodiversity goods and services to persist. IUCN further believes that the CBD Strategic Plan's mission should be formulated in terms of a *level* of change rather than *rate* of change. In addition, the direct drivers of biodiversity loss (climate change, resource consumption, pollution, habitat fragmentation and destruction, unsustainable use of wild living resources, alien invasive species, emerging infectious diseases and bycatch), as well as indirect drivers (resource consumption, globalization, trade, demographic drivers), need to be addressed specifically and explicitly through the targets of the new CBD Strategic Plan. Targets for restoration, as well as ecological and biological connectivity, should also be included.

At the time of writing, an IUCN delegation including members of SSC Specialist Groups (e.g. Piero Genovesi, Sara Oldfield, Liz Radford, Holly Dublin, Geoffrey Howard, etc.) is attending and contributing to the SBSTTA and WGRI meetings. IUCN has made some important interventions on issues such as invasive species, the Strategic Plan and the GSPC. Discussions on the GSPC, a main focal area for IUCN, were enthusiastically positive about the work that has been stimulated by the strategy since it was adopted in 2002 – the GSPC is largely considered one of the most effective thematic programmes of the Convention. IUCN's position statement on the proposed updated Plants Strategy was largely reflected by Parties that made interventions at SBSTTA, again demonstrating the reach of IUCN's position papers and pre-meeting influencing strategy. Target 2 of the strategy, which provides a strong mandate for IUCN's Red List assessment work, was updated to call for “an assessment of the conservation status of all known plant species, as far as possible, to guide conservation action” but otherwise few substantial changes were made to the targets of the GSPC thanks to a thorough consultation process guided by the CBD Secretariat before SBSTTA. IUCN also organized or was involved in several well-attended side-events to communicate its position to CBD Parties and others, including on the GSPC, the CBD Strategic Plan,

biofuels, sites of biodiversity conservation significance and payments for ecosystem services.

Options for SSC involvement

Members of the Species Survival Commission (SSC) can get involved in the work of the CBD in a number of ways including:

Knowledge and information – throughout the process of preparing for the various CBD meetings that will take place in 2010, IUCN has been making an effort to consult with its own internal Secretariat, as well as IUCN Commissions, members and partners to obtain their feedback and views on how to approach the post-2010 CBD work. This will continue and additional position papers for the upcoming CBD CoP10 meeting will be circulated for review. Specialist Group members are encouraged to be aware of this review and consultation process and to contribute their knowledge and information where relevant – either to the IUCN policy documents or CBD meeting documents (e.g. for SBSTTA, CoP10, etc.).

Biodiversity Indicators Partnership (BIP) – Specialist Group input to indicators led through the BIP initiative would be particularly appreciated, especially relating to design,

baseline information, methodologies, etc. For more information, contact Jean-Christophe Vié at jcv@iucn.org.

Work with national governments – Specialist Group members can also communicate directly with their own governments on work and progress relating to the CBD by contacting their national CBD focal points (see: <http://www.cbd.int/doc/lists/nfp-cbd.pdf> for general focal points or <http://www.cbd.int/doc/lists/nfp-cbd-powpa.pdf> for PoWPA-specific focal points). These focal points are government representatives who are linked to the CBD process. Specialist Group members can ask questions of their national focal points, discuss key issues or communicate IUCN positions to them. Another approach for influencing national activities is to contribute to National Biodiversity Strategies and Action Plans (see: <http://www.cbd.int/nbsap/>) or the CBD National Reports which document progress on implementation of the CBD at the national level (see: <http://www.cbd.int/reports/>).

Side events – SSC members can also help contribute to side events at the CBD CoP10 meeting (see: <http://www.cbd.int/cop10/side-events/?mtg=cop-10>).

At IUCN, **Jane Smart** is the lead for CBD policy work (jane.smart@iucn.org) and **Sonia Peña Moreno** is the Biodiversity Policy Officer (sonia.pena-moreno@iucn.org).

Specialist Group exchange

Asian Rhino SG

Meeting in India reviews best conservation approaches

A meeting of the Asian Rhino Specialist Group (AsRSG), held in Kaziranga National Park, Assam, India, from 10–12 February 2010, was attended by about 50 conservationists from eight countries, including delegates from government and NGOs. The meeting discussed the status of three species of Asian Rhinos – the Greater One Horned Rhino, the Sumatran Rhino and the Javan Rhino.

Various threat assessments were carried out to review the conservation approaches needed to enhance the populations and habitats of these three species in their respective ranges. Out of the three Asian Rhino species, the Javan Rhino is the most Critically Endangered with about 40 to 50 rhinos living in the wilderness of Indonesia and Vietnam, while Sumatran rhinos have been declining rapidly in past decades. The Greater One Horned Rhino has been doing fine in Assam, West Bengal and Uttar Pradesh within India, but it faces poaching challenges in Nepal due to the socio-political unrest there.

During the meeting, the following members of the AsRSG were appointed as country co-ordinators: Abdul Hamid Ahmad – Malaysia; Bhupen N Talukdar – India; Shantraj Jnewali – Nepal; and Widodo Ramono – Indonesia. The meeting also established several working groups: the Population

Working Group with co-chairs: Adhi Rahmat S Hariyadi and Shantraj Jnewali; the Habitat Management Group with co-chairs Naresh Subedi and Widodo Ramono; the Human Rhino Conflict Group with co-chairs Rinjen Shrestha and Amit Kumar Sharma; and, the Legal and Policy Group with co-chairs Ritesh Bhattacharjee and Ram Prasad Lamsal.

Bibhab Kumar Talukdar

Chair, Asian Rhino Specialist Group

Bat SG

Field work concludes extinction of the Christmas Island Pipistrelle

Bat Specialist Group member Lindy Lumsden and her team have documented a precipitous decline in the Christmas Island Pipistrelle (*Pipistrellus murrayi*), and after several years of advocating for the establishment of a captive breeding programme, they were able to return to the island in August 2009 to attempt the capture of the few remaining individuals.

Unfortunately, only a single individual was detectable and it evaded capture in mist nets and harp traps, before it eventually disappeared. It was last heard on 26 August 2009. Long-term detector monitoring had indicated that this was the last area on the island where the species remained. Lindy and her team reluctantly concluded that the species had become extinct.

Detector monitoring has continued, however no further calls have been recorded. The reason remains speculative, but predation on roosting bats by introduced predators, including giant centipedes, or some form of disease, are both possibilities.

Paul A. Racey and Rodrigo A. Medellín

Co-chairs, Bat Specialist Group

Bison SG – Europe

Goal to increase population size reached

The main goals for European bison conservation are to increase the population size, save the gene pool and improve management methods. The first goal has been successfully fulfilled. In the last ten years, the total population of the species has increased by 40% and now exceeds 4,000 individuals. This success can be attributed to many presentations, discussions and field trips by members of our Specialist Group, as well as the growing interest of people and private landowners to be involved.

The process of saving genetic variability also requires good co-operation among bison population managers. There are more than 250 herds with different status, size and ownership, so implementation of conservation programmes is complicated but improves every year. Almost 40% of bison are kept in



Asian Rhino SG meeting in Kaziranga National Park, India. © SECTION 11



Christmas Island Pipistrelle (*Pipistrellus murrayi*), © Lindy Lumsden



European Bison (*Bison bonasus*). © M. Hlawiczka

captivity. Detailed pedigree analyses are prepared and presented on: <http://ebac.sggw.pl>. The Warsaw University laboratory, for example, has analysed polymorphism within more than 20 loci.

Very important for conservation and improving the gene pool, especially of the Lowland-Caucasian line, are reintroduction projects conducted in the Orel-Briansk region of Russia and in the Eastern Carpathians in Poland, Slovakia, Ukraine and Romania. In 2009, almost 20 individuals were transferred from Germany and France to the Carpathians.

The second meeting of the European Bison Conservation Centre Board is scheduled in May 2010. This Centre is a result of the shared interest of many countries to work together, and the meeting will discuss, among other issues, the possibility of applying for funds within the EU Life+ frame.

Wanda Olech

Co-chair for Europe,
Bison Specialist Group

Cactus and Succulent Plant SG

Update on the Global Cactus Assessment

The Global Cactus Assessment has continued at a good pace with three regional workshops completed to date. The Cactus and Succulent Plant SG (CSSG) members and regional experts have now assessed the totality of the Mexican and Mesoamerican cactus species, including most taxa from the southwestern United States. The project, coordinated by CSSG member Bárbara Goettsch, has been sponsored by CONABIO, CONANP, Conservation International, INE, Chester Zoo and the Desert Botanical Garden, and has benefitted from the continuous support of IUCN Red List facilitators from the Species Programme.

The workshops held in Mexico and in the United States confirmed the highly threatened status of the Cactaceae, with nearly 30% of the species found to be Critically Endangered, Endangered, Vulnerable or Near

Threatened. The next workshop will be held in the Jardin Exotique de Monaco, and depending on the availability of funds, additional workshops will be organized to assess the remaining species from the West Indies and South America.

Héctor M. Hernández

Chair, Cactus and Succulent Specialist Group

Caprinae SG

Status of all Caprinae revised for the Red List

In November 2009, the Caprinae Specialist Group (CSG) co-sponsored the 5th World Congress on Mountain Ungulates in Grenada, Spain, where papers were presented on the major conservation problems affecting mountain ungulates: habitat destruction, competition and disease transmission from domestic livestock, and poor knowledge of distribution, abundance and taxonomy of mountain ungulates in Asia.

The CSG revised the status of all Caprinae for the Red List, despite very limited information for many Asiatic species, particularly the forest-dwelling rupicaprids serow and goral. The Group maintains active links with several conservation and international hunting organizations to attempt to ensure that 'conservation hunting' of mountain ungulates actually lives up to its name, with tangible benefits for habitat protection and the application of science to harvest plans. Ongoing research on a number of species is testing the potential impacts of selective harvests on demography and population genetics.

Also, long-term monitoring programmes are providing useful information on how climate change affects demography and individual growth. As many species form distinct growth rings each winter, measurement of annual horn increments provides a

multi-year record of individual growth and group members are attempting to convince local managers to systematically collect these measurements.

Marco Festa-Bianchet

Chair, Caprinae Specialist Group

Cat SG

A report on the status of cats in China expected soon

China has 13 of the 37 existing wild cat species in the world, including numerous subspecies, and is one of the most important countries for the conservation of felids. The global status of cat species living in China and on the IUCN Red List ranges from Least Concern to Critically Endangered. For some species, China is the most significant part of their range. One species, (*Felis bieti*), plus several subspecies, are endemic to the country. For these species, global conservation status assessments are highly speculative without reliable information from China. However, information on distribution, abundance and trends of most cat populations in China is too limited, fragmented or outdated to allow for a regional assessment of their status based on IUCN Red List criteria. Therefore, more data on cat populations in China would not only allow for a regional assessment, but would also advance global assessments and the identification of conservation needs.

In 2009, the Cat Specialist Group initiated a project, Cats in China, at a workshop in Beijing. The project has two goals: (1) to create a network of cat conservation specialists for China to improve or develop monitoring methods for cats in the country and to help the Cat Specialist



Leopard Cat (*Prionailurus bengalensis*). © A. Sliwa

Group and Chinese institutional partners improve surveys and conservation of China's cat species; and, (2) to publish a baseline report (in English and Chinese) on the distribution and conservation status of cat species in China. This report will be published in the summer of 2010 as a Special Issue of *Cat News*. The project is a collaborative effort between the National Wildlife Research and Development Centre (NWRDC), Department of Wildlife Conservation of the State Forestry Administration, Cat Specialist Group and Chinese and international cat conservationists.

Christine Breitenmoser and Urs Max Breitenmoser
Co-chairs, Cat Specialist Group

Cetacean SG

Dolphin strandings in Iran reveal diverse marine fauna

In the autumn of 2007, there were two dolphin mass stranding events, involving at least two species (Spinner Dolphins, *Stenella longirostris*, and Striped Dolphins, *Stenella coeruleoalba*) and 152 individuals, along the coast of Iran. Despite having 1,700 km of coastline, the marine mammals of Iran are virtually unknown. However, the response from the media and some controversy over the possible causes of the strandings led the Iranian Department of the Environment and the Regional Organization for the Protection of the Marine Environment (ROPME) in the Persian Gulf to invite the Cetacean Specialist Group (CSG) to conduct an independent, retrospective and scientific investigation into these incidents. Conclusions were that the first event was most likely caused by interactions



Irrawaddy Dolphin (*Orcaella brevirostris*).
© Isabel Beasley

with fisheries, while the second event, a live stranding, resulted from accidental entrapment in a shallow estuary¹.

Following on from this, Iran and the seven other countries that border the Persian Gulf asked the CSG to organize training workshops to guide each country in establishing national marine mammal stranding networks with the objective of collecting baseline data so that they are better prepared to respond to future mass strandings. The CSG also conducted the first review of marine mammal records from Iran, revealing a diverse fauna of at least 14 species². It continues to offer advice and guidance to Iran and ROPME as requested.

- 1 Braulik, G.T., Savadkouhi, O.S., Fadakar, S., Mohammadi, H., Brownell Jr., R.L., Reeves, R. R., Nabavi, M.B. and Fernandez, A. 2010. A retrospective investigation of two dolphin mass mortality events in Iran, Autumn 2007. *Zoology in the Middle East* 49:13–26.
- 2 Braulik, G.T., Ranjbar, S., Owfi, F., Aminrad, T., Dakhteh, S.M.H., Kamrani, E. and Mohsenizadeh, F. 2010. Marine mammal records from Iran. *Journal of Cetacean Research and Management* 11 (1):49–63.

Randall Reeves
Chair, Cetacean Specialist Group
Gill Braulik
Contributor and member of CSG

Conservation Breeding SG

Oryx re-introduction slated in ancestral range

The Conservation Breeding Specialist Group (CBSG) facilitated a workshop in Al Ain, United Arab Emirates, in November 2009 to assemble information on the status of captive Scimitar-horned Oryx (*Oryx dammah*) worldwide, and to begin assembling information on potential reintroduction sites throughout its ancestral range. This workshop brought together nearly 30 experts from northern Africa, the Arabian Peninsula, Europe and North America to discuss the ways in which captive oryx can most effectively serve as founder stock for reintroductions into countries like Morocco, Tunisia, Senegal and Niger.

To continue this work, two additional workshops have been planned. In the interim, oryx habitat and distribution maps are being constructed, and



Grey Crowned Crane (*Balearica regulorum*).
© Jim Harris, International Crane Foundation

biologists and risk assessment specialists are putting together preliminary population viability models that will be used to evaluate alternative reintroduction strategies among proposed sites across Sahelo-Saharan Africa. The CBSG will be identifying and ranking biological and non-biological criteria to be used in the evaluation of alternative reintroduction sites as part of the final phase of recovery planning for the species.

A third meeting linked to the proposed Conference of the Convention on Migratory Species of Wild Animals in Libya will use the population viability models and the ranked criteria to choose optimal reintroduction projects in selected parts of the species' range.

Robert Lacy
Chair, Conservation Breeding Specialist Group

Crane SG

New study shows Sudan is the biggest exporter of African cranes

African Crowned Cranes have declined sharply (Black Crowned Cranes, 22% to 33% in the last 20 years). The Black Crowned Crane is being uplisted to Vulnerable this year, while the Grey Crowned Crane was uplisted to Vulnerable last year on the IUCN Red List, with key threats to both species including removal from the wild for domestication and international trade.

In response, the African Crane Trade Project has made significant headway. In 2009, Black and Grey Crowned Cranes were included in the CITES Significant Trade Review process, which requires that all countries exporting wild-caught cranes show that their exports do not impact wild populations. This action was linked to a motion endorsed at the IUCN World Conservation Congress in 2008, asking the world to minimize the trade in wild-caught African cranes. A study recently

completed in Sudan shows, however, that there is little control over crane trade from that country – currently the biggest exporter of African cranes.

More positively, zoos within formal zoo associations globally have united to work towards developing and maintaining viable captive populations of Africa's cranes, negating the need for future removals from the wild. For example, Crane Specialist Group (CSG) members visited China for a workshop with the Chinese Association of Zoological Gardens. As the workshop began, participants were calling for wild-caught cranes to supplement their captive populations, but changed their opinion completely by the end and promised to work with the CSG rather than remove cranes from the wild.

Jim Harris

Chair, Crane Specialist Group

Crocodile SG

Crocodile students receive support

The IUCN-SSC Crocodile Specialist Group (CSG) has developed a new and innovative approach for assisting mainly post-graduate students who chose to do their field research on crocodiles. The scheme is designed to assist them in developing skills with crocodiles and crocodylian conservation, recognizing it is from the ranks of these students that future CSG membership will be derived.

The SRAS provides up to US \$1,000 per year to a limited number of projects that meet the criteria for assistance. The grant is not designed to fully fund



American Crocodile (*Crocodylus acutus*).
© Luz Barrentes

projects, nor to sustain them over years, but rather to provide some direct financial assistance to the students. Students are encouraged to use the CSG funds, and the 'CSG Approved Project' status, to try and leverage more project funds from other sources.

The scheme commenced in January 2009, and 21 applications were approved in the first year. A further seven applications received this year are under consideration. The scheme was unanimously supported by the CSG membership, including its industry members and its initiation was guaranteed by Bergen Aquarium in Norway, in collaboration with Rene Hedegaard at Krokodille Zoo in Denmark, who made a substantial donation to get the SRAS program started. Other CSG members have made donations specifically for the SRAS.

Applications are reviewed by three independent CSG members. The funds are sent directly to the students, rather than to a hosting institution, and are administered by their supervisor. Although embryonic at this stage, the SRAS has brought together a remarkable group of enthusiastic students and has linked them from the start with the CSG and its members.

Grahame Webb

Chair, Crocodile Specialist Group

Freshwater Crabs and Crayfish SG – new

New Specialist Group to highlight threats to macro-invertebrates

In late 2009, the Freshwater Crabs and Crayfish Specialist Group (FCCSG) was formed with approximately 30 members worldwide. It is co-chaired by Neil Cumberlidge at Northern Michigan University, who will focus on freshwater crabs, and Keith Crandall of Brigham Young University, Utah, who will oversee crayfish.

The FCCSG aims to provide leadership for the conservation of threatened species and populations of freshwater crabs and crayfish throughout the world, based on recent global IUCN Red List assessments. These assessments indicated that



Aubry's Crab (*Sudanonautes aubryi*),
Cameroon. © Jens Kipping

significant numbers of species are threatened with extinction by freshwater habitat destruction, overuse of water, drainage diversion, pollution and over-harvesting for human consumption. These previously understudied macro-invertebrates provide further proof of the rapid loss of the biodiversity of the freshwater realm worldwide, and trends indicate that this situation is becoming increasingly serious.

The FCCSG has a number of goals for the conservation of freshwater crabs and crayfish. These are: to act as the Red List Authority and to update Red List species assessments; to promote long-term conservation of these species worldwide by the management of habitats; the development of conservation strategies and, where necessary, the recovery of populations; to promote integrated research on biodiversity and conservation; to educate non-specialists about all aspects of the group; to create and maintain the FCCSG website of the IUCN SSC that will provide up-to-date global species lists; to keep track of the discovery of new species; and, to list the Red List status for each species.

Neil Cumberlidge and Keith Crandall

Co-chairs, Freshwater Crab and Crayfish Specialist Group

Freshwater Fish SG

Focus on regional fish conservation

In 2009, the Freshwater Fish Specialist Group (FFSG) focused on bringing regional freshwater fish conservation issues into a global context. Of particular importance were two workshops co-organized by the FFSG and Chester Zoo, along with other partners.



Fang Kullander and Claudine Gibson at a Training Course in the Philippines. © Colin Grist, Chester Zoo

The 2nd National Training Course on Freshwater Fish Identification and Conservation was held in the Philippines with over 40 national participants. FFSG Regional Chair Fang Kullander ran sessions on ichthyology, systematics, field sampling techniques and species identification. Participants visited the World Fish Centre – undergoing training in the use of fish identification tools. Claudine Gibson, the FFSG Programme Officer, presented the role of the FFSG globally and the Global Freshwater Biodiversity Assessment, and both Claudine and Fang facilitated a one-day Red List training workshop.

Moving south, the FFSG, Chester Zoo and Adelaide Zoo convened a meeting to tackle the issue of saving Australia's freshwater fishes. Australia has approximately 350 species of freshwater fish, with about 170 endemic species. In South Australia alone, more than 50% of freshwater fishes are threatened. Main threats include altered water regimes, introduced species and drought. Iconic species, including the Murray cod and Australian lungfish, are declining and without urgent action some species will soon be lost for good. As a result of the meeting, a National Task Force is being established to co-ordinate and lead the national recovery and management of freshwater fishes.

The FFSG also assisted the Sturgeon Specialist Group with a Red List workshop, which led to all species of sturgeon being assessed for the IUCN Red List. Results concluded that sturgeon are more Critically Endangered than any other group of species assessed to date. The FFSG will seek

further opportunities to collaborate with other Specialist Groups in 2010.

Gordon McGregor Reid

Chair, Freshwater Fish Specialist Group

Grasshopper SG – new

Introduction to a new invertebrate Specialist Group

Grasshoppers and allied insects (crickets, katydids, stick insects and mantids) are a diverse insect group with more than 30,000 described species. They play a key role in many ecosystems as primary consumers (grasshoppers, stick insects) or predators (katydids, crickets, mantids). Although most Orthoptera species are rather small and inconspicuous, they also include a number of colourful or charismatic species, e.g. the world's rarest insect (Lord Howe Island Stick Insect: *Dryococelus australis*), the world's longest insect (*Phobaeticus chani*), and the colourful families Pyrgomorphidae (gaudy grasshoppers) and Romaleinae (lubber grasshoppers).

In January 2010, a Grasshopper Specialist Group (GSG) was established to address conservation issues concerning these insects. One of the first major objectives is to conduct global Red List assessments for all European species, as the IUCN Red List only contains data for 74 Orthoptera species. There is little doubt that the number of threatened Orthoptera species is much greater than the currently listed species. Furthermore, the GSG will develop bioacoustic monitoring tools and publish management guidelines for

reintroductions and grassland conservation. The website can be found on <http://gsg.myspecies.info/>, and scientists interested in participating should contact Axel Hochkirch at email: hochkirch@uni-trier.de.

Axel Hochkirch

Chair, Grasshopper SG

Hawaiian Plant SG

Programme builds momentum

The Hawaiian Plant Specialist Group's (HPSG) mission is "to prevent the extinction of native Hawaiian plants and provide for their recovery through a co-operatively administered off-site plant conservation system in collaboration with on-site management partners to sample, propagate, and reintroduce rare plants, and to advance the preservation of native plants and their habitats through effective communication and public education".

The Plant Extinction Prevention (PEP) programme initiated by the HPSG continues to build momentum. It aims to manage wild populations of extremely rare (less than 50 individuals in the wild) species *in situ*, while also collecting propagules for storage and reintroduction efforts into protected habitat. The programme has expanded to include co-ordinators on five of the Hawaiian Islands, covering a sixth from nearby, and also has an archipelago-wide co-ordinator. To date, the programme has worked on 141 species: 111 species surveyed of which 18 species were rediscovered or new populations; 102 species placed into genetic storage; 28 species managed



Sierra Nevada Bush-cricket (*Baetis ustulata*). © Axel Hochkirch



Ratnagiri Lily (*Camptorrhiza indica*). © S.R. Yadav

for threats to wild populations; and 17 species reintroduced.

Other efforts are still ongoing:

(1) developing a statewide rare plant database to share the most up-to-date status and threats for each rare plant population; and (2) providing a mentoring programme for private landowners interested in rare plant management and reintroduction.

At its meetings in April 2009, the HPSG also decided it needed to address new issues, including:

- Conducting meetings on each island with plant experts to gather the latest species status information, which may lead to Red List assessments;
- Conducting a workshop on protocols for handling rare plant collections and data collection;
- Convening a forum on past reintroduction efforts from small founder numbers and what we can learn from them; and,
- Determining a process to certify commercial nurseries to grow material for restoration to ensure proper genetic and sanitation protocols.

Marie M. Bruegmann

Chair, Hawaiian Plant Specialist Group

Indian Subcontinent Plant SG

Regional rapid assessments are part of new strategic plan

The Indian Subcontinent Plant Specialist Group (ISPSG) has developed its strategic plan. Using a

gap analysis study that indicated that certain ecologically sensitive habitats and endangered plants outside the protected area network needed special attention and taking into consideration the large number of target species in need of assessment in India, it was decided that baseline information should be augmented at the regional level through rapid assessments.

The Chair's office has been contributing to a CITES manual on plants of the Indian subcontinent, which will be included in CITES Appendices. Also, more than 1,200 plants in the Indian peninsular region have been evaluated for the IUCN Red List and rapid assessments of plants in the extra-peninsular region, including the Himalaya, are underway.

A number of members of the ISPSG have contributed immensely to *ex situ* conservation through the introduction of many threatened endemic plants, including *Plagiostachys nicobarica*, the natural populations of which were almost wiped out by the December 2004 tsunami, according to M. Sabu. Work is underway to augment the populations of another endangered plant, *Curcuma bhatii*. A.K. Goel has helped establish a cycad conservatory, and the ISPSG is in the process of developing a Cycad Conservation Programme for protecting the cycads of the subcontinent. The Western Ghats has been identified as a priority area for conservation action. S.R. Yadav, the Nodal Officer for the Western Ghats Hotspot, has spearheaded conservation activities in this region, and one of achievements has been the successful translocation of the Critically Endangered endemic plant *Camptorrhiza indica*. Newly established populations have increased the species' occupancy from 5 sq km to about 50 sq km.

M. Ahmedullah

Chair, Indian Subcontinent Plant Specialist Group

Invasive Species SG

Database being translated into Chinese

The Global Invasive Species Database (GISD) that is managed and maintained

by the Invasive Species Specialist Group was launched in 2001. The GISD at present features profiles of over 675 invasive species, and there are plans to feature a thousand profiles in the near future.

The GISD has multi-language functionality and features some content in French. In 2009, ISSG began collaborating with the Biodiversity Research Centre of Academia Sinica, Taiwan, to translate 650 profiles on the GISD into both Traditional and Simplified Chinese. Trials have been successful and the GISD will soon feature Chinese language content.

The GISD focuses on invasive species that threaten native biodiversity and covers all taxonomic groups from micro-organisms to mammals. The comprehensive, peer-reviewed profiles contain information on the ecology and biological traits of the species, its distribution both in its native and introduced range, how it is being managed globally, its impacts on biodiversity and ecosystems, a reference list and the name of an expert contact person. Links are provided to the IUCN Red List site. The database can be found at: <http://www.issg.org/database/welcome/>

Piero Genovesi

Chair, Invasive Species Specialist Group

Lichen SG

Identifying threats to rare and threatened lichens is key to conservation

More than 13,500 lichen species are known to exist on all continents, from tropical rainforests to deserts, and in pristine habitats and built-up areas. Lichens have broad geographical distribution ranges that often spread over more than one continent. Nevertheless, where regional Red Lists exist, the decline of lichen diversity has turned out to be as dramatic as that of birds or higher plants. But in most regions of the world, lichens are poorly studied and their decline is often not documented.

The Lichen Specialist Group is involved in the following activities: identifying threats to rare and threatened species, such as air



Leatherback Turtle (*Dermochelys coriacea*). © Brian J. Hutchinson

pollution and specific agricultural and forestry practices; developing lichen conservation strategies in managed forest landscapes; assessing selected species for the Red List; and, testing methods to augment populations of Critically Endangered species.

Out of the plethora of rare and threatened lichens, *Erioderma pedicellatum*, *Usnea longissima* and *Lobaria pulmonaria* are the Specialist Group's most intensively studied species. All these species grow on trees in oceanic forest ecosystems and are sensitive to forest management and air pollution, including elevated nitrogen deposition. The Lichen Specialist Group is also co-operating with the other IUCN Fungi Specialist Groups.

Christoph Scheidegger

Chair, Lichen Specialist Group



Tree Lungwort (*Lobaria pulmonaria*).
© Christoph Scheidegger

Marine Turtle SG

New tools to aid in turtle conservation expected later this year

Since 2009, the Marine Turtle Specialist Group (MTSG) has made substantial progress on key global initiatives, and improved our effectiveness and reach in global marine turtle research and conservation. In late 2008, the group began an exhaustive review of its global membership (now approximately 200 members organized into 10 geographic regions, each overseen by one to three Regional Vice Chairs). This structure has strengthened regional representation and has helped improve communication and networking.

The MTSG continues to be an active partner in the State of the World's Sea Turtles (SWOT) initiative (www.seaturtlestatus.org). The latest SWOT Report features the most comprehensive maps of Olive and Kemp's Ridley biogeography ever produced, along with articles from the world of marine turtle research and conservation.

In April 2010, the Mediterranean region published an outstanding status review entitled "Sea turtles in the Mediterranean: Distribution, threats and conservation priorities" (<http://www.iucn-mtsg.org/publications>). The "Burning Issues" initiative is presently defining regional management units for all sea turtle species, and developing ranking criteria to assess the status of each management unit. The results of this exciting effort will be a useful tool,

available later this year, for directing conservation and research efforts.

The MTSG also continues to provide support to IUCN in its engagement with the Dhamra Port Project in Orissa, India, (www.iucn.org/india/dhamra), ensuring that the port's impacts on marine turtles are minimized as much as possible.

For the last two years, the MTSG has been working to address the widespread illegal poaching and trade of marine turtles to China from Indonesia, Malaysia and the Philippines. Members continue to facilitate dialogue between stakeholders to address the issue collaboratively and effectively.

Roderic Mast and Nicolas Pilcher

Co-chairs, Marine Turtle Specialist Group
With contributions from Brian Hutchinson

Palm SG

Nubian endemic palm one of 50 flagship species being saved

The IUCN Palm Specialist Group (PSG) has been fully reconstituted and now has a membership of nearly 40 experts. The group is chaired by Bill Baker, Head of Palm Research at the Royal Botanic Gardens, Kew. The portfolio of conservation projects being implemented by members of the PSG includes a number of regional assessments, including in Madagascar and Paraguay. The Madagascar palm assessment, for example, shows that 75% of the island's 192 species are threatened and many are Critically Endangered. Targeted species



Medemia argun. © William J. Baker/RBG Kew

conservation projects are also underway. For example, a team in Egypt is working towards the conservation of the Nubian endemic palm *Medemia argun*, which has dramatically declined to around 40 individuals. If successful, this project will not only secure the palm populations, but also other biodiversity that depends on the oases of the Egyptian Nubian Desert. Further details about the PSG's membership, and its 50 flagship palms for conservation, can be found at www.iucn.org/ssc/palm.

William Baker

Chair, Palm Specialist Group

Re-introduction SG

Task Force on Moving Plants and Animals for Conservation Purposes

The SSC Steering Committee has asked the Re-introduction Specialist Group (RSG) to review IUCN's 1987 Position on the Translocation of Living Organisms and the RSG Guidelines for Re-introductions. There is increasing concern and debate over the potential for moving species into areas outside their historical range because of the prospect of extinction in their current range due to impacts such as climate change, habitat loss and fragmentation. The latter is a major factor preventing the natural movement of species into areas with suitable conditions.

The debate has focused on the concepts of 'assisted migration or colonization' and 'managed relocation' as management interventions for rare or threatened species that have a limited ability to move to more suitable locations. The RSG will investigate the risks and uncertainties of these concepts along with other SSC research on species' vulnerability and responses to climate change. The RSG has been asked to undertake this work with the aim of developing a comprehensive IUCN position for the 2012 IUCN World Conservation Congress.

The project is being led by Mark Stanley Price, founder of the RSG and its Chair from 1988–2000. A first meeting took place in the UAE in May 2010 with core RSG members, including: ISG's current Chair Fred Launay, Vice-Chair Mike Maunder, Executive Officer Pritpal

Soorae, Phil Seddon, Mike Jordan, Sanjay Molur, Sarah Dalrymple and Piero Genovesi, Chair of the Invasive Species Specialist Group. The meeting charted the way ahead and specified the collaborations and technical information that the group must consider when preparing its opinions and position. Input from the ISSG will be essential, so the group established a joint RSG-ISSG Task Force on Moving Plants and Animals for Conservation Purposes.

Frédéric Launay

Chair, Reintroduction Specialist Group

Salmon SG

Paper company protects critical salmon habitat in Japan

Oji Paper, the largest paper company in Japan, has made a landmark commitment to create the first protected area on private timber lands surrounding the Sarufutsu River, one of the country's last wild and free-flowing rivers. The Sarufutsu Environmental Conservation Forest is specifically devoted to aquatic biodiversity. It will safeguard critical habitat for a number of species, including the Critically Endangered Sakhalin Taimen (known in Japan as Itou) – the largest freshwater fish in Japan.

"The creation of the protected area on the Sarufutsu is incredibly timely," said Michio Fukushima, a scientist with the National Institute for Environmental Studies Japan and a member of the IUCN Salmonid Specialist Group. "(It) will act as an insurance policy in the face of growing threats to biodiversity globally, including climate change."



Michio Fukushima releases a Sakhalin Taimen (*Hucho perryi*) in the Sarufutsu River.
© Pete Rand, Wild Salmon Center

After listing the species as Critically Endangered on the IUCN Red List in 2006, the Wild Salmon Center, led by Japan Program lead Brian Caouette, has been working with Oji Paper to ensure protection of the most ecologically important segments of the Sarafutsu River watershed for fisheries conservation. The new protected area will include a 30-metre 'no-cut' timber zone along the river and its tributaries within company boundaries to buffer riparian areas and preserve critical habitat. SSG member Gordie Reeves, a partner of the Wild Salmon Center and research biologist with the US Forest Service, provided key input. The area will also encompass several "Important Bird Areas" and to help guide future conservation activities in the region, the paper company has established the Sarufutsu Itou Conservation Council.

Pete Rand

Chair, Salmon Specialist Group

Shark SG

New landmark agreement will restore shark viability

Among the many achievements of Shark Specialist Group (SSG) in the past year has been the completion of the first Global Shark Red List Assessment of more than 1,044 sharks, rays and chimaeras. However, with a new chondrichthyan species discovered every two weeks, the assessment process needs to be transformed to list the newcomers as well as re-evaluating the others.

The SSG has a new website, www.iucnssg.org, and a Facebook page, which will keep members updated on news, publications and all things shark-related. Given the positive response to its Facebook page, the SSG highly recommends this form of communications to other Specialist Groups. It has also established a forum to facilitate the IUCN Red List assessment process.

Two SSG members (Sonja Fordham and Sarah Fowler) attended the CITES meeting in March 2010. None of the proposed shark species were accepted for the Appendices. However, as Sonja highlighted in the recent SSC e-bulletin, the failure of the shark proposals puts



Porbeagle (*Lamna nasus*). © S. Campana

the focus on improving shark fisheries management at national, regional and international levels.

Better news came from the Convention on Migratory Species meeting in February 2010, where a landmark agreement was signed to restore the long-term viability of populations of Great White, Basking, Whale, Porbeagle, Spiny Dogfish, Shortfin and Longfin mako sharks. By signing this agreement, countries expressed their willingness to conserve the threatened shark species covered.

The SSG also provided advice on the potential benefits of an enforced marine protected area in the Chagos Archipelago (British Indian Ocean Territory) for sharks and rays. The SSG is pleased to report that the marine protected area was approved by the Foreign Office and it is now looking forward to engaging in its enforcement and monitoring.

Andrés Domingo and Nick Dulvy

Co-chairs, Shark Specialist Group

Small Carnivore SG

Special symposium on Colombian small carnivores slated for later this year

Little information is available on the ecology and life history of small carnivores in Colombia (families Mephitidae, Mustelidae, and Procyonidae). To address this issue, ProCAT Colombia, the Universidad Distrital Francisco José de Caldas and

the Small Carnivore Specialist Group (SCSG) are co-sponsoring a symposium at the III Colombian Zoological Congress in Medellín, Colombia, from 21–26 November 2010.

The symposium, called Small Carnivora of Colombia (Skunks, Raccoons, Weasels), aims to achieve the following: summarize the state of knowledge and conservation of small carnivores in Colombia; prioritize information needs and possible conservation actions; and define a course of action to facilitate small carnivore conservation in Colombia. Presentations will include global priorities for small carnivore conservation, the role of spatial scale in conserving small carnivores, current conservation measures being implemented and the status of small carnivores in Colombia.

Special thanks to SCSG member José Fernando González-Maya for leading efforts to put this symposium together. For more information about the congress and this symposium, please visit: http://www.iiicongresocolombianozoologia.org/portada/index.php?option=com_content&view=frontpage&Itemid=86

Jerrold Belant

Chair, Small Carnivore Specialist Group

South Asian Invertebrate SG – new

Newly reconstituted group plans to step-up training and communications



The South Asian Invertebrate Specialist Group (SAsISG) was recently reconstituted and is now co-chaired by B.A. Daniel of ZOO, Coimbatore, India, and Ather Rafi of the National Agricultural Research Center in Islamabad, Pakistan. The objective of the group, which covers Afghanistan, Bangladesh, Bhutan, India, Pakistan, Maldives, Nepal and Sri Lanka, is to assist individuals, institutions and agencies in South Asia to promote scientific study and conservation of invertebrates. In October, the third Asian Lepidoptera Conservation Symposium and Training Programme 2010 will be held at Bharathiar University in Coimbatore, India, (<http://www.zooreach.org/3alcs2010.html>). A directory of the Invertebrate Pollinator Network of South Asia was recently posted on: <http://www.zooreach.org/Networks/Invertebrate/IPNSA%20Directory.pdf>. In addition, SAsISG will undertake assessments of invertebrate species in the region, organize training and symposia, publish invited and special articles on themes related to invertebrate conservation and develop educational materials on the multifaceted role invertebrates play in ecosystems. Already three events with the IUCN Freshwater Biodiversity Assessment Unit



have taken place. Two training sessions were held for the Eastern Himalayan and Western Ghats Freshwater Red List assessment projects, and a review workshop of the Eastern Himalayan Freshwater assessments of Molluscs and Odonates was carried out. A review workshop for the Western Ghats is also being planned.

B.A. Daniel and Ather Rafi

Co-chairs, South Asian Invertebrate Specialist Group

Sturgeon SG

Red List Assessment reveals 85% of sturgeon are threatened

The Sturgeon Specialist Group (SSG) organized a two-day workshop on the Red List Assessment of Sturgeons with the Freshwater Fish Specialist Group and the World Sturgeon Conservation Society at the 6th International Symposium on Sturgeon, held on 23–24 October 2009, in Wuhan, China.

A full assessment of the conservation status of all sturgeon species was undertaken by the SSG in 1996. The results showed, at the global level, that 23 of the 25 species of the family Acipenseridae, and both species of the closely related family Polyodontidae, were classified as follows: seven are Critically Endangered, 10 are endangered, and 10 are vulnerable. The overall indication from this assessment was that all sturgeon species are at a serious risk of extinction in the near future.

Seven of the species had been assessed in 2004. The North American species were assessed by the North American sturgeon specialists, led by Richard St Pierre, and were included in the 2005 Red List. All these assessments showed that most of the species remained in the same threatened categories based on declining populations.

Apart from the North American species, all sturgeon species were re-evaluated to determine the current status of each for utilization and conservation. The 2009 workshop was attended by at least 30 members of the SSG. The outcome of the assessment was that sturgeons are amongst the most threatened group of animals on



Atlantic Sturgeon (*Acipenser sturio*). © Jean-François Hellio and Nicolas Van Ingen

the IUCN Red List: approximately 85% of all species are threatened; 63% are listed as Critically Endangered – the highest threat category; 7% are listed as Endangered; 15% are listed as Vulnerable; and, only four species are listed as not threatened.

Mohammad Pourkazemi

Chair, Sturgeon Specialist Group

Terrestrial Invertebrate Red List Authority

First step to determine priorities for future assessments completed

Although invertebrates make up 97% of terrestrial animals, they comprise only 14% of Red List species. Assessing the 99.5% of invertebrates that have not been covered is the responsibility of Specialist Groups or where relevant specialist groups do not exist, the Terrestrial Invertebrate Red List Authority (TIRLA). Terrestrial invertebrate SGs include Mollusc, Dragonfly, Grasshopper and Freshwater Crab and Crayfish groups, with a Butterfly SG in the process of being formed. In addition, there is a South Asian Invertebrate SG with a wide taxonomic remit. All other terrestrial invertebrates fall under TIRLA, which incorporates a Bumble Bee and a European Saproxyllic Beetle RLA.

The first steps have been made to determine priorities for future assessments and to identify experts to act as reviewers of new assessments.



Callirrhapis philiberti. © Justin Gerlach

Good progress has been made and we are now able to review any assessments of most major groups, from sponges to arthropods. There are still some gaps (ribbon worms, woodlice and some insect orders). At present we can cover some beetle families, caddisflies, mayflies, earwigs and ants. The next step will be organizing new assessments. For some small, distinctive groups, such as onychophorans (velvet worms), we expect to be able to undertake comprehensive assessments and other groups could be included in existing assessment programmes such as for freshwater species. The more diverse groups will be impractical to assess comprehensively but may make a valuable contribution to the Sampled Red List (a sample of species from major taxonomic groups assessed for extinction risk to illustrate trends). Groups such as spiders and ants are obvious priority candidates.

Justin Gerlach

Chair, Terrestrial Invertebrate Red List Authority

Tuna and Billfish SG

Successful workshop on Indo-West Pacific fishes paves the way for Atlantic workshop

At a Red List workshop on Indo-West Pacific Tunas and Billfishes at the Academia Sinica in Taiwan last year, the threat status to 43 species was assessed, including 35 scombrids (mackerels, tunas and bonitos), six billfishes (e.g. swordfish and marlin), both species of dolphinfishes, 29 Indo-West Pacific endemics, and 14 populations of wide-spread species.

The success of the workshop was due to excellent planning by Kwang-Tsao Shao and his Organizing Committee and the GMSA team; extensive prior preparation by Naozumi Miyabe and Yuji Uozumi (commercial Indo-Pacific scombrids), Russ Nelson (billfishes), and Maria José Juan Jorda (scombrid life histories); and active participation by all invitees, plus several Taiwan attendees.

During the workshop, the question of the status of the Atlantic bluefin, (*Thunnus thynnus*) was also considered. With input from a wide-ranging team of experienced and knowledgeable specialists, an extensive and vigorous discussion took place which included looking at the data set used by the International Commission for the Conservation of Atlantic Tunas (ICCAT) in their evaluation of this species and reviewing data for both eastern and western Atlantic populations of Atlantic bluefin for an IUCN Red List assessment.

Having completed evaluations of Eastern Tropical Pacific and Indo-West Pacific species, the 15 Atlantic



Grey Wolf (*Canis lupus*). © David Mech

endemics and evaluations of 14 widespread species can now be completed. There are plans to hold an Atlantic workshop in Recife, Brazil, in September 2010.

Bruce B. Collette
Chair, Tuna and Billfish Specialist Group

Viper SG – new

Rattlesnake conservation plan will be group's first project

The Viper Specialist Group was formed in February this year with Christopher L. Jenkins of Project Oriane (www.projectorienne.org) as its chair. Invitation letters are being sent to potential members. Working with a staff member from the Atlanta Botanical Garden (Mark Mandica), the group has created



a logo and is now working on its website. As a key initiative for the Viper Specialist Group, Project Oriane is developing an Eastern Diamondback Rattlesnake Conservation Program and supporting a graduate student at the University of Georgia, who will study the rattlesnake's ecology, as well as co-ordinate the development of a Conservation Action Plan for the species. An initial meeting of the group is scheduled to take place later this year in Europe.

Christopher L. Jenkins
Chair, Viper Specialist Group

Wolf SG

New website under construction

The Wolf Specialist Group is preparing to launch its first website. It will feature a comprehensive wolf bibliography, as well as links to other sites that have objective, science-based wolf information such as the International Wolf Center.

David Mech and Luigi Boitani
Co-chairs, Wolf Specialist Group



Indo-Pacific Tuna and Billfish assessment meeting, Academic Sinica. © Eric Chang

Key outcomes for CITES

The 15th Convention on International Trade in Endangered Species (CITES) Conference of the Parties (CoP) meeting took place from 13–25 March 2010, in Doha, Qatar, and was attended by 1,500 participants representing more than 170 governments, intergovernmental and non-governmental organizations including IUCN. IUCN's delegation had a number of SSC representatives including: Yvonne Sadovy, Chair of the Groupers and Wrasses Specialist Group, Holly Dublin and Diane Skinner, Chair and Programme Officer of the African Elephant Specialist Group, Sonja Fordham and Sarah Fowler of the Shark Specialist Group, Tom Dacey of the Crocodile Specialist Group, Richard Emslie of the African Rhinoceros Specialist Group and Peter Paul van Dijk of the Tortoises and Freshwater Turtles Specialist Group.

On the agenda at the conference was a variety of items focusing on species such as Asian big cats, elephants, rhinoceroses, Humphead Wrasse and Big-leaf Mahogany, as well as 42 proposals submitted by CITES Parties to put species on either Appendix I, where species are threatened by international trade so these trade activities are ceased, or Appendix II, where international trade of a species can continue but is more intensely regulated. Once again, IUCN and TRAFFIC produced the *Analyses of the Proposals to Amend the CITES Appendices*, which is a publication that objectively assesses whether the proposals meet the biological and trade criteria to be placed on one of the Appendices (or be moved between them). To view the Analyses document in English, French or Spanish see: <http://www.traffic.org/cop15-table>.

Discussions at CITES CoP15 were intense, particularly because a number of species on the agenda are commercially important, most notably the Atlantic Bluefin Tuna (*Thunnus thynnus*). Monaco had submitted a proposal to place this species of tuna on Appendix I because of concerns for the decreasing population and the high level of trade. Both the FAO Panel of Experts and the IUCN/TRAFFIC Analyses concluded that the tuna species met the biological and trade criteria for inclusion on at least Appendix II, but the proposal was rejected by a vote during the meeting. A primary argument by Parties was that the species should be managed by Regional Fisheries Management Organizations (RFMOs), such as the International Commission for the Conservation of Atlantic Tuna (ICCAT) rather than CITES, though ICCAT has had problems in previous years implementing decisions to conserve the species.

Other proposals that were rejected included those to place a number of shark species on Appendix II, Corallidae on Appendix II, to transfer the African Elephant (*Loxodonta*

africana) in Tanzania and Zambia from Appendix I to Appendix II, and to move the Polar Bear (*Ursus maritimus*) from Appendix II to Appendix I. The votes for some of these species (e.g. sharks and Corallidae) were very close with a simple majority in favour of the proposals, but a two-thirds majority vote is required for accepting proposals at CoP meetings.

Proposals that were accepted included those to: transfer the populations of Morelet's Crocodile (*Crocodylus moreletii*) in Mexico, Belize and Guatemala from Appendix I to Appendix II with a zero quota for wild specimens (the Guatemala population was rejected); to transfer the Egyptian population of the Nile Crocodile (*Crocodylus niloticus*) from Appendix I to Appendix II for ranching purposes; list three iguana species endemic to Honduras on CITES Appendix II; list five species of tree frogs on Appendix II; list the Satan's Beetle (*Dynastes satanas*) on Appendix II; include Brazilian Rosewood (*Aniba rosaeodora*) in Appendix II; list *Bulnesia sarmentoi* (a South American tree) on Appendix II; list seven plant species in Madagascar on Appendix II (though originally 12 species were proposed); and, transfer Kaiser's Spotted Newt (*Neurergus kaiseri*) to Appendix I.

Other outcomes of the meeting included a positive discussion on the status of Humphead Wrasse (*Cheilinus undulatus*), which resulted in additional measures to combat Illegal, Unreported and Unregulated (IUU) fishing of the species. There were also productive discussions on rhinoceros species. The US proposed a draft decision at the meeting calling for bilateral meetings to address poaching, and this was accepted. Parties also agreed on a Decision and Resolution that focused on increasing bilateral exchanges between key rhinoceros range and horn consumer states, further investigating poaching incidences and examining illegal trade in countries such as Vietnam. Several decisions were taken by Parties to improve conservation measures for Asian big cats, including one that asked all Parties to submit by 30 June any information on tiger poaching and illegal trade incidents occurring within their territories since 2007. Another document was submitted by Sweden on behalf of the EU for Asian big cats and set out a number of recommendations that were accepted by CITES Parties, particularly relating to improvements in legislation and enforcement.

For more information on the outcomes of the CITES CoP15 meeting, see: <http://www.cites.org/> or <http://www.iisd.ca/cites/cop15/>. Alternatively, you can email Dena Cator at dena.cator@iucn.org. IUCN will also be developing a summary report that it will circulate soon.

Steering Committee update

By Rachel Roberts

In January 2010, the Species Survival Commission (SSC) Steering Committee met in Choroni, Venezuela, for the second meeting of the 2009–2012 IUCN Quadrennium. Prior to the meeting, a SSC Symposium was organized by Jon Paul Rodríguez at the Instituto Venezolano de Investigaciones Científicas (IVIC), Caracas, where 12 members of the Steering Committee gave presentations to over 200 people, promoting the importance of biodiversity and conservation. The success of this Symposium has prompted plans for other symposiums to be arranged to coincide with future SSC Steering Committee meetings. This will mean that each host country will receive some benefit from these meetings.

The meeting was attended by the majority of Steering Committee members (see full list of members at the end of this article). An update of the work of the SSC was provided by Simon Stuart, Chair of the Commission; Jane Smart, Head of the Species Programme, reported on the work of the Species Programme; and, general updates were provided on the work of each SSC Sub-Committee.

A strong theme of the meeting was how to raise the profile of species within the global conservation world, with a key focus on the vital role of

communication and the way our message is successfully projected to wider and more diverse audiences. It was agreed that whilst the IUCN Red List of Threatened Species™ continues to maintain a strong presence in the media, the SSC could be even more effective in its ability to influence both the public and policy.

The Red List was also discussed in terms of its untapped potential, in stimulating conservation action, informing global policy and raising money for those species identified in Red List assessments. For example, it could become more reader-friendly, so that it is perceived more as an information source for various outputs, papers and publications.

Within the context of an increasing number of proposals for new SSC Specialist Groups (SGs), the Steering Committee agreed on a set of questions to evaluate the merits of each proposal.

These questions are to be answered during the formal application process to form a new SG, and the answers will be sent to the Steering Committee for consideration. Meanwhile, the SSC Steering Committee approved the establishment of SGs for Vipers, Chameleons and Grasshoppers, and also the re-establishment of the former South Asian Invertebrate SG. The Steering Committee also agreed to the formation of a new Freshwater

Conservation Sub-Committee.

Other items of note included: the commencement of work on the redevelopment of the Re-introduction Guidelines (supported by Al Ain Wildlife Park and Resort); confirmation of the establishment of the SSC-WCPA Joint Task Force on Biodiversity and Protected Areas; the finalization of the formal Integrated Biodiversity Assessment Tool (IBAT) agreement (between IUCN, UNEP-WCMC, BirdLife International and Conservation International); and the near-completion of the Red List Partnership Agreement.

It was acknowledged by the Steering Committee, that an area where the SSC needed a complete overhaul was its awards and membership categories. It was agreed that a Distinguished Service Members category is to be established, together with the re-establishment of the SSC Roll of Honour, which will give specific recognition to those individuals who have made an outstanding leadership contribution to the Commission.

Since 2010 is the International Year of Biodiversity (IYB), there is a great opportunity to raise the profile of biodiversity and conservation issues – particularly at the species level. Two kinds of IUCN products are envisaged for IYB: scientific papers; and targeted documents for policy makers. A major

scientific multi-author paper, based on datasets of the current state of biodiversity and trends, Red List indices, and mapping improvements and deteriorations in species status, is being written, led by Michael Hoffmann (newly appointed SSC Senior Scientific Officer); and, other scientific papers are underway or planned.

Also in 2010, following the first Red List update in March, there will be two further public updates in September and October. There will also be major enhancements to the IUCN Species website, other key communications projects including Species of the Day (see Species Programme update for details), and a continued roll-out of the Red List scale in zoos and botanic gardens.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was discussed as having great potential for the SSC to provide its knowledge and data into the heart of decision-making. IPBES is intended to be a scientifically independent, inter-governmentally-mandated platform to bring together the latest scientific understandings to inform national and international policy processes. It was agreed that IUCN needs to be more specific on what it can bring to IPBES and other similar fora such as GLOBE International (the Global Legislators Organization for a Balanced Environment). Members of

the Steering Committee also worked on the IUCN vision paper on IPBES, which has been disseminated to the IUCN network.

The Save Our Species (SOS) initiative is gathering momentum and, since SSC is providing scientific guidance and expertise, it was agreed by the Steering Committee that an SSC SOS working group needed to be established. With wide spread regional and taxonomic expertise, this group is well placed to assist with setting priorities for the allocation of funds.

The major challenges facing the SSC formed a significant part of the agenda and were discussed in detail. It was agreed that a new SSC Task Force on Climate Change, supported by the Species Programme, will be created to provide input and advice to the IUCN's overall work on climate change. Funding has now been committed from several different sources to support the Amphibian Survival Alliance, which will now progress with appointment of staff and initiation of a work programme. The

Asian large animal crisis is to be prioritized for funding under the "Crisis Asia" tag-line.

All members of the Steering Committee expressed their thanks for a very productive and successful meeting. An extremely full agenda had been carefully worked through, and many discussions, proposals and decisions took place to move the work of the SSC forward in an effective and strategic direction. The next meeting has been proposed for November 2010 in Indonesia.

SSC Steering Committee Members

Luigi Boitani
Topiltzin Contreras MacBeath
Hans De longh
Maj De Poorter
John Donaldson
Brahim Haddane
Mirza Kusri
Robert Lacy
Frederic Launay
Danna Leaman

Jeffrey McNeeley
Patricia Medici
Russell Mittermeier
Anders Rhodin
Jon Paul Rodríguez
Andrew Rosenburg
Yvonne Sadovy
Michael Samways
Stella Simiyu
Jane Smart
Mark Stanley Price
Simon Stuart
Xie Yan

Institutional Observers

Jonathan Baillie
Thomas Brooks
Carlos Drews
Jon Hutton
John Robinson
Alison Stattersfield

IUCN Secretariat

Steve Broad
Jane Smart
Jean-Christophe Vié



Scimitar-horned Oryx (*Oryx dammah*). © Fondation IGF/ G. Roques Rogery

Species Programme update

Biodiversity Assessment Unit (BAU)

The Biodiversity Assessment Unit, based in Arlington, Virginia, is being led by Neil Cox, while recruitment for a new manager is underway.

Mammals

The mammal assessment work has been transitioned to the University of Rome where the ongoing management and updating of the data is being overseen by Carlo Rondinini. Jan Schipper, the former Global Mammal Assessment co-ordinator, has left the Species Programme to take up a post in Hawaii – we wish him all the best!

Marine

The Global Marine Species Assessment (GMSA) has recently completed workshops to assess Indo-Pacific Tuna, Global Jacks and Lobsters, Global Croakers (Sciaenidae) and Hagfish, Indo-Pacific Scarids, and Butterflyfishes and Angelfishes. A full list of past and future workshops can be found here: <http://sci.odu.edu/gmsa/about/completeworkshops.shtml>

To support all of this work, the GMSA team has grown. It now includes Beth Polidoro (Research Associate/Senior Red List Officer), Heather Harwell (Post-Doctoral Associate/IUCN Programme Officer), Mia Theresa Comerros-Raynal (Research Assistant/Red List Officer), Cristiane Elfes (BAU Programme Officer), Jonnell Sanciangco (GIS Research Associate), Andrew Hines (Graduate Research Assistant), Andrew Calhoun (Undergraduate Research Assistant), Landon Knapp (Undergraduate Research Assistant), and Emilie Stump (Undergraduate Research Assistant).

Freshwater

The BAU is currently involved in running freshwater assessments in the Mata Atlantica in Brazil, with an initial focus on the fishes. The team is also helping to complete the Central Africa report for the pan African project run by the Freshwater Biodiversity Unit (FBU) and will also be assisting on the final project report to bring together results from all the regional assessments. Work is also underway to run stakeholder workshops to evaluate the freshwater Key Biodiversity Areas (KBAs) proposed for southern Africa by the Freshwater Biodiversity Unit. Further information on the FBU can be found below.

Reptiles

Assessment of reptile species has slowed with the refocusing of BAU assessment priorities towards freshwater and marine species. During February 2010, a Global Reptile Assessment (GRA) workshop undertook a review of the conservation status of the ~90 species of reptiles present on New Caledonia, of which nearly all are endemic. The post-workshop review suggests that a high proportion of species are threatened, often from habitat loss. The GRA workshop planned for Madagascar (~350 spp.) has now been delayed until January 2011. Also in January 2011, we hope to complete an assessment of the reptile species (~265 spp.) of the Western Ghats region of India, funded through a successful proposal to the Critical Ecosystem Partnership Fund (CEPF) by our local partner organization, the Wildlife Information Liaison Development Society (WILD).

Amphibians

The BAU has now finalized the core of the Amphibian Red List Authority (RLA) membership to help evaluate assessments feeding into the IUCN Red List. Members of the RLA are currently undergoing Red List and SIS training. Support is continuing for national Red Listing processes underway in Brazil, Cuba, Sri Lanka, Peru and South Africa, with a view to updating global Red List assessments as a part of these collaborations. BAU has continued to distribute copies of *Threatened Amphibians of the World*, largely through the small grant received from the Mohamed bin Zayed Species Fund to facilitate the shipping and postage to developing countries.



Giant Bronze Gecko (*Ailuronyx trachygaster*). © Justin Gerlach

Climate change

Development of interim guidelines for listing species as threatened with extinction due to climate change

The SSC Standards and Petitions Subcommittee (SPSC) met in January, and in response to IUCN Resolution 4.016, the group updated the Red List Guidelines to include a new section on climate change. The new climate change section was written by the members of SPSC that attended the meeting, with the help of Richard Pearson and Miguel Araujo. The new draft of the guidelines was then reviewed and edited by the whole of SPSC. The revised draft was circulated to the SSC Red List Technical Working Group members for their comments. After a few minor changes, the new version was released and posted on the IUCN website by the IUCN Red List office: <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>.

Assessing species vulnerability to climate change

This project is in its final stages and climate-change vulnerability assessments for global birds, amphibians, corals and South African Proteaceae will be made available in the second half of this year. A scientific paper covering the global findings is in preparation.

Climate change vulnerability of human-utilized species in Africa's Albertine Rift

This joint two-year IUCN Species Programme-TRAFFIC project began in January. While species utilization information is being collected and co-ordinated by TRAFFIC, the Species Programme has begun assessing climate change vulnerability of priority species via IUCN's newly developed Climate Change Vulnerability Framework. IUCN Uganda has kindly agreed to co-host a workshop of Albertine Rift species experts in July. We thank the SSC network and partners in the Albertine Rift region for their invaluable responses to our call for species utilization information. We greatly appreciate their expertise and time.

Communications

News and publications

Since our last issue of *Species*, we have put out several press releases on the IUCN Red List and species work in general on topics ranging from mangroves to sturgeon, and from climate change to bison. With the help of the Global Communications Unit, these announcements have received extensive global media coverage, raising public awareness about the plight of the world's threatened species. In addition, the Species Programme and SSC have published and promoted several



Quiver Tree (*Aloe dichotoma*). © Wendy Foden

publications, further details of which can be found in the Publications section.

Website

The Species Programme has also been liaising with the Global Communications Unit to move forward with developing a greater focus on the work that is being done by the Species Programme and the SSC. Our aim is to produce a more easily accessible information source for all.

Red List logo and scale

In the last issue of *Species*, we announced the implementation of the Red List logo and scale in the enclosure signage of 15 zoos and aquariums. There have been numerous requests since then, and further publicity about these materials published by the European Association of Zoos and Aquaria.

Species of the Day

To coincide with the International Year of Biodiversity, the Species Programme and SSC have launched Species of the Day. The main objective of this initiative is to increase awareness of the huge variety of life and raise the profile of threatened species, in an easy-to-read and visually appealing layout to attract a wide-ranging audience.

Each day a different species is featured, all of which have been nominated by the majority of the Specialist Groups. This has allowed Species of the Day to represent an entire range of groups – both the charismatic and the obscure species – in all regions, and highlight the detailed threats to their existence.



Species of the Day: Humphead Wrasse

The Humphead Wrasse, *Cheilinus undulatus*, is listed as 'Endangered' on the IUCN Red List of Threatened Species™. It is one of the largest reef fishes in the world, reaching almost two metres in length, and occurs throughout the Indian and Pacific Oceans.

Although widespread, the Humphead Wrasse is uncommon. Its flesh is highly prized, especially in the popular live reef-fish trade. This wrasse is particularly vulnerable to exploitation: even moderate levels of fishing have a significant impact on its numbers. Significantly, restaurants prefer the smaller, juvenile fish, so individuals are fished before they can reproduce. The Humphead Wrasse's coral reef habitat is also threatened by human activities throughout parts of its range.

The global convention to address species threatened by international trade (CITES) lists this species in its Appendix II, thus calling for regulation of trade. Fishing regulations are in place for this species in many areas, but illegal and unregulated trade persists. Tighter controls need to be implemented, particularly as this species cannot be hatchery reared, so all traded individuals come from the wild.

www.iucnredlist.org
www.grouperwrasse.org
Help Save Species™
www.arkive.org

RED LIST

IUCN **SSC** **ARKIVE** **2010** **UNEP**

A Species of the Day profile

The Species of the Day team, working with ARKive and the Specialist Groups, have established a wonderfully enthusiastic following, with around 600 websites and blogs currently displaying the button (which links directly to the homepage), over 900 dedicated fans on Twitter, and a Species of the Day gadget for selection on the iGoogle page. There has also been substantial interest in the use of the profiles as an educational tool, and engagement by other media channels keen to promote it beyond the internet.

Please support this exciting project by visiting <http://www.iucnredlist.org/species-of-the-day>, spreading the word of its existence amongst your networks, and continuing to respond to the requests of the Species of the Day team. This project is a joint project of the IUCN Species Programme and the Species Survival Commission (SSC). It has been made possible through the support of UNEP and ARKive.

Freshwater Biodiversity Unit

Africa Freshwater Biodiversity Assessment

The final phase of this project has been devoted to analysis and publication of the results, including a comprehensive pan-Africa report that will be published in September 2010 when the full dataset is released on the IUCN Red List. Regional reports have now been published for Eastern and Southern Africa and reports for Western and Northern Africa will be published in September. We are also drafting a scientific paper presenting the main findings of the project. Work has continued on four sites demonstrating the integration of biodiversity assessments into environmental planning with the publication of *Okavango Delta: Floods of Life*, which was launched on World Wetlands Day at an international wetlands symposium in Maun, Botswana.

Expansion into Asia

The four major freshwater species assessment projects in Asia are progressing well with the completion of a Red List training workshop for the HighARCS Project held in Kolkata, India (June 2009); a training workshop for the Indo-Burma Hotspot project held in Phnom Penh, Cambodia with IUCN Cambodia Country Office (November 2009); a training workshop for the Eastern Himalayas Hotspot project in Kathmandu, Nepal with IUCN Nepal Country Office (March 2009); with a combined review workshop with the HighARCS project in Kolkata, India (March 2010); and, a training workshop for the Western Ghats Hotspot project in Coimbatore, India (January 2010). Review workshops for the Western Ghats and Indo-Burma projects are planned for late 2010. Results from these assessments of approximately 4,000 species will be published in 2011.

Toolkit for Integrated Assessment of Wetlands

An Integrated Wetland Assessment Toolkit: A guide to good practice published in July 2009 is currently being used by the HighARCS project to design the project's field surveys of five communities in highland areas in India, China and Viet Nam; and, to help assess the biodiversity, livelihood and economic value of wetlands that these communities rely upon. It is also being used by WorldFish to inform fisheries and livelihoods management work in China, and Wetlands

International may also use the publication for their work in southeast Asia.

Key Biodiversity Areas (KBAs)

A workshop was held in Cambridge in December 2009 to work on rationalizing boundary overlaps of proposed freshwater KBAs for Africa with pre-existing protected areas, Ramsar sites and other KBAs, such as Important Bird and Plant Areas. One significant outcome of the workshop is a basic protocol for the identification, review and finalization of freshwater KBAs. A formalized set of criteria have now also been developed, as part of the BioFresh Project, and a presentation on the KBAs of Africa will be given at the 2010 SCB Symposium in Canada.

Climate change

The FBU has recently joined in a partnership with an EC-funded project called BioFresh to build an information portal to enable research on the main drivers of freshwater species distributions, predicted future species distributions, gap analysis for protected areas, and much more. The first steps of the project in the past few months have included work on developing a formalized set of site selection criteria, the results of which will be presented at the symposium noted above.

Sturgeons

Thanks to funds from the European Commission and Chester Zoo, all European and Asian sturgeon species were assessed at a workshop held at the 6th International Symposium on Sturgeon in Wuhan, China (October 2009). The workshop was well attended with many members of the Sturgeon Specialist Group present. The results were published on the

Red List in March 2010 – with 85% of the 27 species threatened, the news is not good.

Staff changes in the FBU

Laurel Bennett completed her internship in January 2010 and we thank her for her excellent contribution to the work of the FBU. We welcome Robert Holland and Emma Brooks, who have joined the FBU as Programme Officers, and Nieves Garcia and Diego Juffe as Junior Professional Associates.

Supporting the SSC network

General support

Over the past year, support to the SSC network has included regular updates to the Specialist Group Chairs, ongoing correspondence, the Species e-bulletin, supporting SSC communications activities (e.g. publications, press work), consulting on IUCN policy work and administering/seeking funding, among other tasks. For example, Julie Griffin is working with the Crop Wild Relative, Medicinal Plant and Global Tree Specialist Groups on the development of a proposal for assessments and conservation action recommendations for prioritized species within these groups.

CBD

On plant matters, the focus has been on contributing to the update of the CBD Global Strategy for Plant Conservation through consultation, of the PCSC and plant Specialist Groups. As a result, SSC made significant input to the new document. IUCN submitted a position paper to the CBD and it organized a side event at the SBSTTA meeting, which took



Okavango Delta, Botswana. © Joachim Huber

place in May 2010. Julie Griffin and Dena Cator will continue to prepare for the upcoming CBD CoP10 meeting that will take place in October 2010.

CITES

Dena Cator worked on preparing for CITES CoP15, which took place in Doha, March 2010. For more information, see the CITES article in this issue of *Species*.

Red List training

Red List training remains a priority with Julie and Dena, who are helping Caroline Pollock and Rebecca Miller to refine the Red List training strategy. They have also been participating in Red List training workshops: Dena with the mammal Specialist Groups in August 2009; and, Julie with Chinese and other plant Specialist Groups in June 2009.

Staff changes in SSC Network Support

Julie Griffin will be leaving IUCN for a one-year sabbatical starting in mid-July to pursue her master's degree in Conservation Leadership. The SSC Network Support Officer job has been advertised to bring in a replacement as soon as possible. We wish Julie all the best!

Red List Unit

Red List training

The new IUCN Red List training initiative is an ambitious project with two aims: to substantially increase the global network of Red List assessors and trainers, and to build capacity for using the Red List to its full potential. We have already updated current training materials and are starting to develop new materials to create an engaging and revitalized training course. By the end of this year, an improved Red List assessment and SIS training course will be available, and a special course will be developed to teach new Red List Trainers how to build global capacity to meet the growing demand for training workshops. The aim is to finalize the new training packages by the end of the year through a pilot workshop in the autumn with experienced assessors.

Later this year, we will also be developing online training materials to support distance learning, including full e-learning courses that will allow people all over the world to

become trained as Red List Assessors or Red List Trainers through self-paced distance learning.

The current training materials are already available on the new Red List Training webpage (www.iucnredlist.org/technical-documents/red-list-training), which includes information on Red List documents, training presentations, case studies, translations, and the Species Information Service (SIS). New developments will be announced on this webpage as we progress in this initiative, so stay tuned for future updates.

Red List website

November 2009 marked the latest major update of the IUCN Red List of Threatened Species™. This update included new assessments and reassessments for dragonflies and damselflies, molluscs, sampled freshwater fish (for the Sampled Red List Index), endemic Philippine reptiles, and East African plant species. As a result, the overall number of species covered by the Red List increased by 2,839, with the number of threatened species increasing by 363. Since then, the website has been going through some exciting changes, including the addition of photos to species accounts, and playing host to the Species of the Day initiative webpage. In March of this year we had our first update of 2010, which focused on Europe's butterflies, saproxylic beetles and dragonflies, and European and Asian Sturgeon species. The total number of species assessments on the IUCN Red List is currently 47,978, with 17,315 species listed as threatened.

Species Trade and Use

The Species Programme has been very involved in species use and trade activities during 2009 and 2010. In addition to CITES (see article in this issue), another key activity has focused on developing indicators for food and medicine.

Biodiversity indicators for food and medicine

Thomasina Oldfield and the SSC Medicinal Plant Specialist Group are continuing work on developing the Indicators for Biodiversity for Food and Medicine, one of the suite of indicators being developed through the Biodiversity Indicators Partnership (BIP) that will demonstrate our progress towards meeting the 2010 Target of the Convention on Biological Diversity (CBD). A paper synthesizing the results of all the indicators was recently published in *Science*, which found no evidence of a significant reduction in the rate of decline. The indicators included in the study were developed and synthesized through BIP – a collaboration of over 40 international organizations and agencies developing global biodiversity indicators, and the leading source of information on trends in global biodiversity. The results from the work on Indicators for Food and Medicine have also been included in the Global Biodiversity Outlook 3, the flagship publication of the CBD, released in May this year. For more information, see: http://www.iucn.org/knowledge/publications_doc2/publications/?5228/Global-Biodiversity-Outlook-3



Will Darwall facilitating Red List training. © Kevin Smith

Publications summary

European Red List of Butterflies

The European Red List is a review of the conservation status of c.6,000 European species (mammals, reptiles, amphibians, freshwater fishes, butterflies, dragonflies, and selected groups of beetles, molluscs, and vascular plants) according to IUCN regional Red Listing guidelines. It identifies those species that are threatened with extinction at the regional level – in order that appropriate conservation action can be taken to improve their status. This comprehensive assessment of all European butterflies provides an overview of the conservation status of this important insect group. This study shows us that nearly 9% of butterflies are Threatened and a further 10% are Near Threatened.



The Status and Distribution of Dragonflies of the Mediterranean Basin

This report contains a review of the conservation status of 165 Mediterranean species of dragonflies occurring in the Mediterranean basin, according to the IUCN regional Red Listing criteria. It identifies species that are threatened with extinction at regional level so that appropriate conservation action can be taken to improve their status.



IUCN Red List Categories and Criteria. Version 3.1 (Arabic version)

The threatened species categories used in Red Data Books and Red Lists have been in place for almost 30 years. The IUCN Red List Categories and Criteria provide an easily and widely understood system for classifying species at high risk of global extinction, so as to focus attention on conservation measures designed to protect them. This latest version of the classification system was adopted by the IUCN Council in February 2001 and reflects comments from the IUCN and SSC memberships and the final meeting of the Criteria Review Working Group.



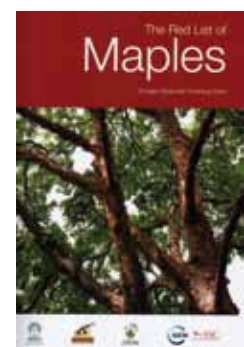
European Red List of Saproxyllic Beetles

This is the first assessment of the Red List status of Europe's saproxyllic beetles, that is beetles depending on wood decay. It has evaluated a selection of 436 species present in Europe. This study shows us that nearly 11% of saproxyllic beetles are threatened and almost 14% of the assessed beetles (60 species) are thought to have significantly declining populations.



The Red List of Maples

Maples are keystone species in northern temperate forests and are much valued as a source of revenue for products such as maple syrup and timber. As with many other tree species, maples are under threat in the wild primarily as a result of forest degradation and destruction, as well as of climate change. This report presents a review of the conservation status in the wild of maples worldwide. The Red List of Maples was led by the SSC Global Tree Specialist Group.



European Red List of Dragonflies

This study has evaluated 137 species and subspecies of dragonfly present in Europe. It shows us that about 15% of European dragonflies are threatened. More than a quarter of the assessed dragonflies still have declining populations. The loss and decline of their habitat poses the main threat as freshwater ecosystems are facing high pressures due to the increased water demand for agriculture and domestic use and to the impact of climate change.



American Bison: Status Survey and Conservation Guidelines 2010

The next 10 to 20 years could be extremely significant for restoring wild populations of American bison to their original roaming grounds. But for this to happen, more land must be made available for herds to roam free, government policies must be updated and the public must change its attitude towards bison. This publication reports on the current status of American bison, in the wild and in conservation herds, and makes recommendations on how to ensure that the species is conserved for the future. It was produced by the SSC Bison Specialist Group.



IUCN Red List Index: Guidance for National and Regional Use. Version 1.1

The IUCN Red List Index (RLI) measures trends in the overall extinction risk ('conservation status') of sets of species, as an indicator of trends in the status of biodiversity. Extinction is a key measure of biodiversity loss that has resonance with the public and decision makers, and that has clear relevance to ecological processes and ecosystem function. The RLI is based on movement of species status through the IUCN Red List Categories, and so a good knowledge of these Categories and Criteria is necessary for assessment of extinction risk.



Sea Turtles in the Mediterranean: Distribution, Threats and Conservation Priorities

Interest in sea turtles in the Mediterranean has increased considerably in the last decades. A regional approach to study such wide-ranging species is fundamental but it has often been hampered by the number of countries and different languages and the number of people involved and has made diffusion of information in this area difficult. For this reason, regional studies are particularly useful. This country-by-country review includes basic information about turtle occurrence, threats, conservation status and perspectives. It is organized in chapters for each country or area and they all follow the same structure, which makes comparison easier. This is a publication of the SSC Marine Turtle Specialist Group.



Okavango Delta: Floods of Life

Wetland ecosystems and the amazing diversity of plants and animals that inhabit them are thought to be more threatened than any other ecosystem. The Okavango Delta, as the world's largest inland delta, is no exception. This book is both a celebration of the diversity of aquatic life in the Okavango Delta, and is an inspiration to decision makers throughout the region to work together to ensure the survival of one of the world's most beautiful and valuable wetlands. Beginning with an explanation of the functioning of the Delta, the book uses beautiful photographs to describe the value of the Delta in terms of its diversity of plants and animals. Finally, current and future threats to the Delta are reviewed, and a range of management actions for ensuring the future of the Delta are discussed.



For more information about other IUCN Commissions, see the links below:

- **Commission on Education and Communication (CEC):**
<http://www.iucn.org/about/union/commissions/cec/>
- **Commission on Environmental, Economic and Social Policy (CEESP):**
<http://www.iucn.org/about/union/commissions/ceesp/>
- **Commission on Environmental Law (CEL):**
<http://www.iucn.org/about/union/commissions/cel/>
- **Commission on Ecosystem Management (CEM):**
<http://www.iucn.org/about/union/commissions/cem/>
- **Species Survival Commission (SSC):**
http://www.iucn.org/about/work/programmes/species/about_ssc/
- **World Commission on Protected Areas (WCPA):**
<http://www.iucn.org/about/union/commissions/wcpa/>



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Geographical range

Species of the Day: Aneгада Ground Iguana

The **Aneгада Ground Iguana**, *Cyclura pinguis*, is listed as 'Critically Endangered' on the IUCN Red List of Threatened Species™. Once distributed across the entire Puerto Rico Bank, this species is now restricted to the island of Aneгада, with introduced populations on the islands of Guana, Necker, Norman, and Little Thatch.

Human encroachment and the introduction of non-native mammals, especially feral cats, have caused the decline of this species. Each autumn as hatchling iguanas emerge from their nests, feral cats prey on the naïve iguanas resulting in high juvenile mortality. Today the wild population is made up almost entirely of older adults; perhaps fewer than 400 Aneгада Ground Iguanans remain in the wild.

A range of conservation activities are underway on Aneгада, including establishing a proposed National Park, encompassing the core iguana area, and a 'headstart' facility which raises hatchling iguanas in captivity until they are large enough to be safely released. To date, over 100 iguanas have been released back into the wild with an 80% survival rate.

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