

Blogging from Bonn –

a personal account of the pre-COP9 meeting: 'Biodiversity Research – Safeguarding the Future' held prior to the Convention on Biological Diversity – 9th Conference of the Parties (CBD-COP9), University of Bonn, 12th-16th May 2008.

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Background

The Convention on Biological Diversity (CBD) is the foremost international treaty relating to the conservation, preservation and exploitation of genes, species and ecosystems. It emphasises the importance of biodiversity to the ability of the planet to support life and, ultimately, to the continued existence of human beings. Administered by the United Nations, the CBD has been signed by 168 countries since its launch at the 1992 Rio Earth Summit and is the basis for much of the national and international law relating to species actions plans, habitat conservation and the equitable utilisation of biological resources. The CBD holds its Conference of the Parties (COP) every two years. In May 2008 this took place in Bonn (Germany) and was attended by 6000 delegates, including politicians, civil servants and representatives of non-governmental organisations. The CBD has been criticised for its lack of engagement with the scientific research community and its failure to include biodiversity scientists in the decision making processes. To address this, at the last CBD meeting (COP8 in Curitiba, Brazil) the inaugural pre-COP scientific meeting was held. Invited scientists presented their latest findings and ideas, and

drew up a set of recommendations which were presented to the CBD-COP. The pre-COP is intended to be an ongoing event, serving as a forum for dialogue between biodiversity researchers and the CBD, with the ultimate aim of providing the most recent scientific data and ideas to the CBD.

As articles in recent issues of the BES Bulletin have highlighted, the interplay between science and policy has never been straightforward; most scientists are not trained in the political and diplomatic skills required for complex negotiations, and most politicians and civil servants have little scientific education. However a dialogue between these communities is vital if laws and treaties are to have a sound scientific evidence base. It's an arena which most scientists are reluctant to enter, either because of apathy or disinterest, or perhaps because they view such engagement as having no benefit to their research careers. It was my own lack of experience, plus curiosity, that convinced me to accept an invitation to speak at the pre-COP9 conference. During the meeting I produced a regularly updated blog, mainly for the benefit of my students and colleagues who were interested in what we were trying to achieve. This is an edited version of that blog.

Monday 12th May 2.05pm – Heathrow Airport

Waiting for my flight to be called. This morning was a hectic rush of getting kids to school, finalising packing, and setting up some plant self-incompatibility experiments that I've been putting off. It was my last chance to do it before the plants stopped flowering and I'd have had to wait another year.

Tuesday 13th May 7.30am – University of Bonn

Last night was a confusion of getting to the hotel, checking in, getting to the Koenig Museum, registering for the conference, then scoffing nibbles and wine whilst scanning faces and name tags for any that I recognised. All in the 30 degree heat of the interior of the museum – Europe's having an early May heat wave. I melted. Finally I spotted Markus Fischer, who had invited me to talk. Together with some of the other speakers we decamped for a walk along the Rhine in search of a cool beer garden. The Rhine is wide. And fast. And there are floating Chinese restaurants. In the beer garden we discussed the prospects for the future of biodiversity; quite a bleak conversation, though interesting and far ranging. My fellow beer-gardeneers were mainly tropical conservation biologists and their stories of whole West African regions being completely denuded of trees within 17 years were harrowing. We toasted "biodiversity" and "ecosystem function" and retired to bed.

This morning I woke up much too early and enjoyed a very large German breakfast with lots of coffee. Now sitting in the very large German university lecture theatre waiting for the talks to begin. Will report back later.

01.30pm

The contrast between the policy/politico talks and the scientific presentations in this morning's session was truly striking. The opening address by Prof. Walter Erdelen, Assistant Director-General for Natural Sciences at UNESCO, was a gold plated example of broad brush platitudes and talking the right language. He emphasised a multi-faceted approach to biodiversity conservation, incorporating science, education, culture and communication, and the ways in which UNESCO are trying to engage with this. It's the words that the scientists want to hear, but how does it really translate into scientist engagement? Even less convincing was the talk by the head of the Convention on Biological Diversity, Executive Secretary Dr Ahmed Djoghlaif, who delivered a very long call to arms for scientists to get more involved with CBD policy. Again, it's what we want to hear. But this came just after Carlos Brandao, a Brazilian co-organiser of the previous pre-COP8 meeting in Curitiba in 2006, had reported that almost no progress had been made on fulfilling the recommendations from that meeting. There seems to be a huge gap between the work of the CBD and the biologists doing the research work that ought to be informing it.

There was a better reception to the scientific talks, including presentations on the progress in conservation monitoring of bats (by Michael Willig and Kate Jones), an account of the online taxonomic revision of the genus *Solanum* (Sandy Knapp) and some very positive news about the progress of conservation in Mexico by Rodrigo Medellin.

11.50pm

I've just got back to the hotel after a tiring evening. The afternoon's talks ended at 04.00pm. There was then a question and answer session with the speakers for the day, followed by a short poster session. From 06.00pm I joined the recommendations write-up committee at the Koenig Museum. The purpose of the committee was to synthesise the day's findings into a set of recommendations that could go forward to the CBD-COP9 meeting next week, to be ignored by the 6000 delegates. That may sound cynical but it's the emerging theme from today – that the CBD exists in a hermetic bubble of its own making, lacking external scientific input into its policy making processes. It's taken me less than 24 hours to get this pessimistic. What will I be like by Friday?

Writing by committee is a tedious, difficult process, but Rodrigo Medellin as chair kept us in check and we finally agreed on a set of words by 08.00pm. All of this took place in the main office of the Museum which was (in 1948) the German Chancellor's office, where the foundations of the post-Nazi period government were put in place. The weight of history hung heavy on our shoulders, so we decamped to a local restaurant for dinner, barely stopping on the way to notice the exterior of Beethoven's birth place. I ate black pudding. And drank beer.

Wednesday 14th May 08.50am

This morning we focussed on the ecosystem services that biodiversity provides (clean water, fresh air, decomposition, pest control, pollination, etc.) and it was kicked off by a very erudite and well constructed plenary talk by Hal Mooney. Hal was on the committee which produced the recent Millennium Ecosystem Assessment and he pointed out that the ecosystem services concept has provided a new 'market' for scientific information for entities such as policy makers, businesses, international development organisations, conservation groups, etc. They need to know how to value ecosystems and to understand what they provide for society. However he also noted that science and policy, even when they speak to each other, don't move fast enough. The capacity of ecosystems to provide services has been severely degraded, most of that degradation has happened in the last 50 years, and the rate is accelerating. A sobering thought.

This theme was picked up by Jacquie McGlade from the European Environment Agency who bleakly summarised the state of the world's oceans; most fisheries are predicted to collapse in less than 50 years and it will be the low diversity fisheries that go first. However, it seems that the EU is taking a lead in developing international policy in this arena. I hope she's right.

02.45pm

Never let it be said that scientific meetings are not enjoyable. It's an opportunity for guilt-free indulgence in endless scientific conversation. However, the trade off to this gab-fest is tiredness and temporary brain death, no matter how much coffee one drinks. So, I've skipped the post-lunch talks to work on my presentation, deal with emails, etc. The talks were regulation of access to biodiversity, benefit sharing, and so forth. Important stuff, especially as there is evidence that scientific research may be compromised because some governments in high biodiversity regions are lumping basic

science with commercial research and restricting access to collecting permits. A worrying trend. However, I'm talking tomorrow at 1130 and need to fine tune the presentation in light of what's already been said this week.

The second session of the morning was a series of talks on the subject of biomimicry – using nature as a model for developing novel products, processes and technologies. Wilhelm Barthlott spoke about the Sacred Lotus; the nano-structure of its leaves allows it to rapidly shed water, together with any dust or other contaminants and the potential applications are enormous. As Barthlott argued: 'the loss of species = loss of information'. We don't know what other discoveries await us in the natural world. That shouldn't be the only criterion for preserving biodiversity, but it's one which big businesses and governments, at least, can understand.

The heat wave continues. I texted my daughter at home to ask if she'd watered my vegetable seedlings and my experimental plants. She pointed out that I'd taken the only key to the back door with me so she couldn't get into the garden. "Climb out of the window?" I cautiously suggested. "Right, that may not happen" she replied. Hope it rains....

Thursday 15th May 07.45am

I didn't make it to the write-up committee last night; a lot of people were going who had more experience & expertise than I in the areas covered yesterday. Plus I was seduced by the thought of good food, good company, a cold beer and an early night. Tonight I will do my bit and attend whatever the possible distractions may be, as I'm speaking at 11.30am and need to put in my perspectives for today's recommendations.

02.17pm

My talk was quite well received, though it's always difficult to know whether people are just being polite. It generated some questions and comments afterwards which was its main purpose. The title was *Pollinators as critical ecosystem service providers: the biodiversity of species interactions*. The main point of it was to emphasise that pollination by animals has a value far beyond its agricultural service, which the CBD has previously recognised in its International Pollinator Initiative (the so-called Sao Paulo Agreement). Estimates vary, but in the USA it is thought that pollination services are worth in the region of six to eight billion US dollars per year, with a third of world crops requiring pollination by animals. That's important, but the ecological value of biotic pollination is much greater: the latest figures I've been able

to calculate suggest that about 270 000 species of flowering plants require pollinators. Assuming a conservative 300 000 species in total, that's some 88% of all species; this rises to 93% in the tropics. Angiosperms dominate most terrestrial ecosystems, and by some estimates as much as 3% of net primary productivity is channelled through terrestrial ecosystems via pollinators; this is clearly an important class of species interaction.

I had thought that I was going to be a lone voice as species interactions are rarely considered within the context of biodiversity monitoring and conservation. However a number of earlier speakers had alluded to it in their talks and I was able to cross reference to those. I'm not sure that I convinced anyone that plant-pollinator interactions require special attention in this regard (compared, for example, to mycorrhizae, seed dispersal, herbivory, etc.) but at least I raised the profile of the topic.

The highlight of the day has been presentations by Bob Scholes and Woody Turner regarding the establishment of GEO-BON, a global earth biodiversity observation system that seamlessly fuses on the ground monitoring of biological diversity (including species interactions!) at local, national and regional levels, with satellite imagery. Is this the start of biodiversity research as big science to rival high energy particle physics, climatology, interplanetary flight, etc? Let's hope so: it's not before time! NASA seems to be growing more interested in this. Overall a good day: I'm feeling more buoyant and less pessimistic than I was at the start of the week.

Friday 16th May 07.45am

The last session of pre-COP9 is about to begin; this will be a presentation of the final set of recommendations to the Convention on Biological Diversity meeting next week, together with discussion of their implications, followed by a press conference.

Last night the recommendation committee worked as a whole until 08.00pm to finalise the draft, then a sub-committee worked until 10.00pm to distil everything down to two sides of A4, catch all the typos, improve the effectiveness of the language, etc. Everyone was exhausted.

The recommendations are broad and catch-all in scope. Perhaps naively I'd hoped that specific recommendations would be produced; amongst the ones I suggested was "*Recognition that biotic pollination is a critical interaction that is vital to sustaining most terrestrial ecosystems and has a value*

far in excess of the agricultural services highlighted by the Sao Paulo Declaration". Other speakers were thinking along the same, focussed lines. But the consensus view, on the advice of delegates who had experience of working with the CBD, was that anything too specific would not be taken seriously. That's a shame, but at least we're attempting, as scientists, to talk a language that politicians understand.

With regard to the recommendations that we are presenting to the CBD, the only way that they will be considered is if one of the delegations from member countries takes it up and agrees to present it at the Conference of the Parties next week. Colleagues here are using personal contacts to lobby the delegation members. We'll see what happens.

12.18pm

I'm writing this from Cologne airport, waiting for my flight. As usual I've turned up too early, but it's a chance to catch up with things and to reflect on the week.

The panel discussion this morning was attended by representatives of the Convention on Biological Diversity, the International Union of Biological Sciences, the German Government and the German Research Council. David Cooper (who represented the Secretariat of the CBD) opened proceedings by saying how pleased the CBD were that the meeting had been held and that they thought it was vital for scientists to get involved in trying to influence CBD policy. He stressed the importance of increasing the evidence base for biodiversity change via scientific activities and in particular he strongly welcomed the GEO-BON concept of a network for Earth biodiversity monitoring. All encouraging stuff. Let's hope that the CBD seriously consider our recommendations at COP9 next week.

The remaining panel members made similar statements of support for what we were doing and all welcomed the pre-COP idea of a scientific meeting before the main event. One panel member mooted the idea of the equivalent of an Intergovernmental Panel on Climate Change (IPCC) for biodiversity (IPBC?) That would certainly signal that the world's governments are serious about preserving biodiversity and the goods, services and processes that it provides. I hope that this is pushed forward for COP10, which is in Japan, just in time for us to say whether we have met the CBD target of "a significant reduction in the loss of biodiversity by 2010". I think we know the answer to that already.

It's been an amazing week: I've listened to some extraordinary science and ideas, met remarkable, creative people with a phenomenally wide range of expertise, and learned much about the international perspective on biodiversity research and policy. At times I've felt far from my comfort zone, but I'm beginning to understand a bit more about how science does (or does not) inform international policy and law. On a personal level, I was pleased to see species interactions being brought to the fore and specifically incorporated within the mainstream conceptualisation of what biodiversity involves, how we measure it, and why it's important. After all, it's interactions between species that drives ecosystem function, not just the species themselves.

Now it's back to Northampton, to the reality of a bag of washing to sort out and plants to water, an allotment to weed and student assignments to mark. I may start lobbying for a place at pre-COP10.....Over and out.

The recommendations from pre-COP9 can be downloaded from:

www.cbd.int/doc/meetings/cop/cop-09/information/cop-09-inf-51-en.doc

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