

We must learn to reduce our demands on the ecosphere, but I'm not sure that we're smart enough to do that. INTERVIEW WITH DR. MARK FELLOWES.

Interview by:

Fabio Angeoletto

fabio_angeoletto@yahoo.es

Universidade Federal de Mato Grosso, Rondonópolis, MT



*Dr. Mark Fellowes studied Zoology at Imperial College London (1995) and moved to Imperial's Silwood Park campus to complete a Ph.D. in Evolutionary Biology (1998), followed by a brief post-doctoral position at the NERC Centre for Population Biology. He joined the University of Reading as a lecturer in Zoology (2000). Dr. Fellowes' group work on human-wildlife interactions (People and Wildlife Research Group), asking how the choices people make have unforeseen consequences for species. Current projects include work on red kites, urban greening, cats and conservation, leopard ecology and urban butterfly population dynamics, and how the presence of mutualists affects plant-herbivore-enemy interactions in an urban context. The work of Dr. Fellowes' research group has featured widely in national and international print and broadcast media, won a silver medal at the Chelsea Flower Show, and he has published two science books aimed at the general public.
m.fellowes@reading.ac.uk*

Terr@Plural - Urban Ecology has had a great boost, both in the number of scientists and in knowledge produced, since 1990. How do you define this science?

Urban Ecology is the study of non-human organisms in the most human-dominated environment of all, our cities and towns. In evolutionary (and indeed ecological) terms, these massive cities have appeared in the blink of an eye as we have moved from destroying ecosystems for agriculture to destroying it for our dwellings and businesses as the global human population passes sustainable limits. For me, urban ecology is all about how species adapt to these great changes, how ecological patterns and systems change as we alter the chemical composition of the air, the substance of the soil, we homogenize biodiversity and deliberately favour some species over others. We have only in the past generation really realized just how fundamental these changes are, and more importantly, to see this change as a signifier of what the future holds for ecosystems as humans alter the world to suit their immediate needs.

***Terr@Plural** –Data shows that, in spite of megacities, most of the urban growth in global terms occurs in small and medium-sized cities, whose planning and management capacity is usually low. Do you agree with this point of view? And how can urban ecology be applied to reduce the impacts of these cities and to increase the quality of life of their citizens?*

You can't argue with data! Part of the challenge is that much of urban ecology is done in places like North America and Europe, where planning rules are relatively strict and many small and medium-sized cities are well managed. I work in Reading, UK, where there are abundant green spaces and domestic gardens that are in some ways more diverse than the surrounding countryside. But this is not where the real growth in cities is happening. For that, we need to look to Africa, Asia, and South America. I have projects in Nigeria and Ghana, where urban growth is a true sprawl, with little planning and no space for wildlife. Their urbanization is the equivalent of taking napalm to a forest, leaving little of ecological value behind. How do we help ensure that the people in cities like that benefit from biodiversity, when their fundamental needs are for decent shelter, power, sanitation, and education? But this is not the norm in most growing cities, where the reality for most is found somewhere between the embedded constraints of Europe and the lack of regulation in the most rapidly growing parts of the world. Here however nature still comes far down the list of importance for planning. More than that, you need robust and transparent laws and regulations, that people can trust to be fairly implemented if we are to manage cities for nature and the local communities.

***Terr@Plural** –We live in Planet City. The future is urban, but probably the dystopia presented in the classic science fiction film Blade Runner (whose story takes place in 2019!) will not materialize. How do you see the growth of cities throughout the 21st century? Will we achieve the seemingly irreconcilable objectives of urban development, conservation of urban biodiversity and reduction of the ecological footprint of cities?*

Despite what most people think when they meet me, I am hugely pessimistic about the future. We face global challenges unlike any other through the twin perils of climate change and population growth. We are in the age of the Anthropocene, the sixth great extinction, and we will never get back what we have lost (and some of what we have already lost is the memory of what used to be there, so what we accept as normal is a shifting baseline). While we can't prevent these losses, we can slow down their effects and must take action to mitigate this loss where we can. Cities will continue to grow, but the idea that everyone can have the standard of living that the wealthy countries enjoy today is based on the premise that economic growth is limitless. This is self-evidently not true as we pass our planet's carrying capacity. We must learn to reduce our demands on the ecosphere, but I'm not sure that we're smart enough to do that. But if anyone is listening, ecologists are the people to help find the way! As I write this piece, parts of London are grid-locked because of the actions of protesters who want us to wake up to the need to

prevent climate change. I truly hope that their voices are heard, but politicians are rarely awake to the needs of future generations until society changes around them.

As an aside, I've watched *Blade Runner* many times, and in that story, animals are rare or extinct. In that dystopia, the few animals that survive are in the city, but people remember what animals were like (the replicant animals and those listed in the Voight-Kampff test). Perhaps cities are where species will survive, both in reality and in memory?

Terr@Plural – *The knowledge you have produced about Urban Ecology is somehow translated into planning and management? In your country, is there effective cooperation between managers to apply urban ecology to planning?*

Our work has helped influence advice given by NGOs (consequences of the provision of food for wild birds; this is a very common pastime in the UK), horticultural charities (through our development of a replacement for grass lawns in temperate regions), and our work on cat predation has been cited in the Houses of Parliament during planning debates. To be honest, though, I don't think that our work will have a lasting impact in itself, because the decisions that need to be made are often self-evident. Plant more native trees, provide parks with a diversity of habitats, develop green (and blue) corridors, encourage people to engage with and support wildlife in their own back yards.

Terr@Plural – *The biological diversity of cities is one of the central research topics of urban ecologists. How can ordinary citizens be engaged in actions to conserve urban biodiversity?*

While we may think of planners and bureaucrats determining how green cities are, the reality is that the millions of individuals who rent, own or squat on land, who build their homes and choose what to plant, what to help, and what to kill, they are the ones who also decide how biodiverse the city is. My work is largely about people and how their individual choices affect biodiversity. This can be direct, through what the owners of domestic gardens choose to plant, and the consequences for insect diversity and abundance, or they choose to feed wild birds, supporting some species over others. Effects can also be indirect, as for example by providing supplementary food for wild birds we can inadvertently support invasive species or actually harm the species they are trying to help through the predatory effects of our domestic pets. Individually, people make little difference, but it is the fact that millions of us make similar choices means that together people have enormous influence over urban ecosystems. While I said in response to the last question that I didn't think that my work would affect land managers, but I do hope that it will influence the millions of people in the UK and maybe further afield who manage their own backyards and gardens for wildlife. Our work has featured in all of the main UK newspapers and nature magazines, we've been interviewed on the radio and appeared on the main nature TV programs, talking about urban people and wildlife. In the UK we are lucky that there are people who want to listen - almost 1 in 50 are members

of the main bird conservation charity (the Royal Society for the Protection of Birds) in this country for example, and tens of thousands take part in citizen science studies. There is a willing and knowledgeable audience and reaching them and others is our way of trying to influence behaviours.

Terr@Plural –What is the future of urban ecology?

Urban ecology will become an established, significant part of wider ecology, but blending more into the social sciences - it's the most human of the 'ecologies'. Millions of people make individual decisions, which cumulatively determine the diversity and nature of the places where we live. There's something peculiarly democratic in a way about urban ecology, but as we all know democracy sometimes produces unfortunate outcomes - there isn't always wisdom in crowds... As urban ecologists, our role is both to record what happens, and to help those decision-makers make the best decisions for both people and wildlife.