

It's a rat's life

It is tempting to assume that the domesticated lab rats that you look after behave very differently from their wild cousins, but is it really true? Dr Manuel Berdoy from the University of Oxford devised an experiment to find out. The results are presented in his award winning film *The Laboratory Rat: A Natural History*. It follows the lives of domestic rats after their release into a large outdoor enclosure where they compete, like their wild counterparts, for food, shelter and mates.

We can now bring you the inside story from the film's leading lady, "Dot", who kindly agreed to give Manuel some exclusive behind the scenes gossip in this revealing interview.

Dot, thank you very much for agreeing to see me.

My pleasure. Actually, I can't see you that well, but it is a pleasure to smell you (ultrasonic laugh).

The film¹ in which you star has recently been released and you have collected several awards. Congratulations.

Thank you very much. It was a team effort. I am delighted that it was so well received.

First things first. Why are you called Dot?

The directors had the idea of following the everyday life of one of the cast after we were all released into the 'wild', and chose me for the role. They put a marker pen dot on my white fur coat so that the viewers could recognise me and that soon became my stage name.

But the film does not follow your exploits.

I know! I am annoyingly anonymous in a mass of lowly extras. Of course, the fact that I washed the mark off after a few days did not help. Not a lot of people know this, but we like to keep as clean as possible and groom ourselves a lot. I wish all the people who think we are so dirty appreciated that.

How did you get on with all the extras? *

Well, most of us had not met before so it took some getting used to. After our release, we had to decide where to live, who goes where, sort out who had the leading role and, needless to say, cope with hordes of adoring male admirers.

I am glad that you brought this up first. Some critics have commented on the group sex scenes. Have you got any regrets?

No. I thought that it was fully justified by the story. Sex is an important part of our biology and our

success as a species. And the sexual tension between myself and those actors worked well on screen don't you think?

Well yes, but some people said that it went a bit too far: after all, the film clearly shows you actively soliciting...

Well, I admit that's true to a certain extent and we girls do encourage competition. What you need to understand is that because our males do not provide any parental care, we might as well mate with the best ones we can find. Besides, having a litter with several fathers avoids putting all our eggs in one basket, if you'll pardon the pun. And of course it's also a good idea to keep the biggest males guessing about which pups are their own. They might not be happy with that, but that's their hard cheese! To a certain extent it's their own fault. A bit of competition, a bit of muddying of the water; clever manipulation is the weapon of those who cannot rely on brute force you know, any female will tell you the same thing.

But what about the scene where one of the males kills children?

Didn't I just tell you about brute force? I know it's gruesome, but it would be wrong to be judgemental. This is part of our natural world. You may be surprised to know that low level infanticide is actually widespread in mammals. It can be a way of reducing competition. You see, we have a rather complex breeding system when we are allowed to express it. In fact it's just one of our many mysteries that scientists are still trying to decipher.

What did you like in the enclosure? Did you have any other memorable experiences?

Digging was great fun. We got down to that straight away. We got pretty good at climbing too. We did all our own stunts, you know. And all the different food was out of this world. A bit puzzling at first to be sure, but we are quite good at sorting out the wheat from the chaff and letting the others know what's what. It is no coincidence that we are one of the most successful mammals on the planet. And if you are a clever social species, you might as well make the best of it, don't you think? Mind you it wasn't all fun and games.



What were the downsides?

We could have done without the film crew blocking one of our 'runs'. We had created a network of these handy tracks to get to where we wanted to quickly. We travel them virtually on auto-pilot, so it's hardly surprising if we run into obstacles put right in our way. A colleague was very embarrassed that it was all captured on film. It looks dumb until you realise that the whole point about 'runs' is that you move quickly without having to think about what is in front of you. It is simply more efficient, and lets you concentrate on more important things, like cats for example!

That must have been a tense moment! What did you think about the short appearance of the film's 'heavy'?

Another of the directors' great ideas! Fortunately their cat was not a problem for us. As captive bred rats we had not seen a cat for many generations, but we still know what to do. Millions of years of evolution don't disappear just like that! We hid, and stayed hidden. At one point the cat dared to have a good sniff by one of our burrows. Talk about over-acting! One of us gave him a good nip on his nose. A bit foolish I admit, but I expect that it taught the cat a lesson. We never saw him after that. I am told that you find cats photogenic. To us they just smell bad! In fact all carnivores smell pretty bad. Must be all that meat eating I expect. Don't be surprised if we freak out when we smell a carnivore nearby, even if we can't see it. Smell is so important to us. We can recognise other rats that way and get an impression of their moods, their social status, levels of anxiety, fear and so on. And scary smells feature pretty high on my list of nightmares, think of Room 101 in reverse!

What is your biggest nightmare then?

Anthropomorphism probably, and you can say that you heard it from a talking rat! People often seem to think we should like the same things as they do. But it's presumptuous to assume that we will care for what you intuitively imagine we should like, and on the other hand, what we do crave is not necessarily something that humans might consider important. Even if you are not interested in us for our own sake, which I find hard to believe, you are, whether you like it or not, studying the sophisticated product of mammalian evolution. It might not always be obvious, but captive bred animals, from mice² to polar bears³, still carry a lot of wild inheritance. So you have to understand what we have specifically evolved to do.

But surely there are things that must have changed since your wild ancestors?

Certainly. We are much more trusting for example. Wild rats have been described as one of the most wary mammals, and understandably so. Who was it that said "paranoia in wild rats is a sign of a good grasp of reality"? Domestication has bred this trait out of us because there is no need to be so alert in captivity. It would be inefficient. But it doesn't mean that there is no wild left in us. The film has proved this and, I hope, highlighted the dangers of confusing 'normal' behaviours with what you may 'normally' see in captivity.

Overall, are you pleased with the film?

On the whole, yes. This is the acceptable face of reality TV, although I was a bit disappointed that the film does not really convey the full range of emotions we express. A 22 kilohertz post-ejaculatory cry at dusk, now that's what I call music! I accept that the ultrasonic dialogue had to be lowered for the audience to be able to hear it, but it inevitably loses a lot. I am generally not in favour of dumbing down the quality for the viewers. It is just one those things that we 'artistes' have to put up with I suppose.

What are your plans for the future?

Much the same as everyone else: to make a difference if I can, whilst having a relatively good life.

Dot, thank you.

Thank you – it's been a pleasure.

* All the behaviours referred to in this interview can be viewed on the film's website.

¹ Berdoy (2002) *The Laboratory Rat: A Natural History*. Film. 27 minutes www.ratlife.org

² Latham N and Mason G (in press) From house mouse to mouse house: The behavioural biology of free-living *Mus musculus* and its implications in the laboratory. *Applied Animal Behaviour Science*.

³ Clubb R and Mason G (2003) Captivity effects on wide-ranging carnivores. *Nature* 425 (6957): 473-474.

