



'REPTILE-MAD' STERRIN SMALBRUGGE:

'I speak up for animals that people are scared of'

She travels around the world to film and help protect reptiles. And she got into the news this year with a study of immaculate conception in king cobras. Writer and presenter Sterrin Smalbrugge has always thought it strange that some animals have a higher 'cute factor' than others. 'I want to emphasize the sociable side of animals.'

TEXT MARIANNE WILSCHUT

A 16-year-old poodle called Rocky is the only pet in the house in Rijssen in the rural east of the Netherlands where ecologist and herpetologist Sterrin Smalbrugge (27) lives with her parents and sister. There are no terraria full of snakes or other reptiles. Quite surprising for someone who presents an educational show about reptiles, plays the main role in the Videoland programme *Reptile-mad*, has written two children's books about reptiles, and is an ambassador for *National Geographic Junior*. 'For most of the year I live with my boy-

friend in the Sierra Nevada in Spain,' says Smalbrugge. 'So it's not practical to keep pets here in the Netherlands.' But don't expect to see any terraria or caged animals at her home in Spain either. 'We've turned our house and its grounds into a paradise for nature. We've created a pond for toads and a rabbit warren, and hung up bat nesting boxes. In the evening we often switch off Netflix to enjoy our own gecko soap on the walls of our house. All sorts of intrigue goes on between those creatures.' When Smalbrugge was a child, she and her

father used to watch *The Crocodile Hunter* on Animal Planet, which was presented by Steve Irwin, an Australian animal expert with a penchant for reptiles. 'I'm in love with all animals, and I get on better with them than with people. But I always thought it was strange and unfair that some animals have a higher cute factor than others. Why do children have posters of lions or pandas on their walls and not of snakes? Steve Irwin was crazy about reptiles and I still remember an episode in which he, a tough crocodile hunter, wept buckets over the death of >



STERRIN SMALBRUGGE

Sterrin is currently doing PhD research in the Wageningen Wildlife Ecology and Conservation group, on the ecological trap hypothesis. She has written two children's books: *Sterrin's reptielenreis* (Sterrin's reptile journey), 2019, and *Het grote reptielenboek* (The big reptile book), 2021. She also performs in educational live shows about reptiles, played the main part in the Videoland programme *Reptielengek* (Reptile-mad), and is an ambassador for National Geographic Junior.

Education: WUR MSc Forest and Nature Management 2018

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a crocodile. That made a big impression on me. He was my hero. When he died while filming, I decided at the age of 12 that, just like Steve, I wanted to speak up for animals that people are scared of.'

On his programmes, Steve Irwin was inclined to jump on the animals and fight with them, albeit playfully. Freek Vonk does the same. What is your presentation style?

'The focus on TV is usually on the animals' sharp teeth and other dangerous facts about them. To me it's more important to highlight the sociable side of animals. The way the crocodile's sharp jaw is used to carry its babies around, for instance. I'm not trying to say: look how brave I am with these dangerous animals. If you take away that over-the-top masculine bravado, girls can also think, hey, I could do that too.'

And my priority is the reptiles' wellbeing. During the live performances, I always tell the audience that I will take the animals away again if I see they are getting stressed. And I rotate them so they don't have to go on tour very often. The animals that come along are kept at Reptiles Twente, where they are very well looked after.'

Even as a student in Wageningen, you gave well-attended lectures about reptiles.

'That's right. I gave lectures about the king cobra and the hidden power of reptiles, and I held an evening on the anatomy of snakes. Those lectures were a real baptism

by fire but even though I was nervous, I was very keen to do it. If I wanted to pass on my knowledge about animals, I had to get up and do it. It helped to do it with my Animal Sciences teacher Arie Terlouw. He gave me fantastic guidance. There wasn't a herpetology department, but I took zoology courses with him and he sat with me for hours to expand my knowledge about reptiles. In that sense I was an atypical student. I hardly ever went out on the town. My aim was to graduate with distinction and apart from attending classes, I spent most of my time studying so I could learn as much as possible about reptiles.'

Why did you choose Wageningen, even though the focus there wasn't on reptiles?

'Leiden was a more obvious choice in that respect, but I looked into it in depth and attended a lot of open days. As a result, I knew when I was still at secondary school that I wanted to go to Wageningen. I think it's important to study animals as part of the ecosystem. Wageningen has a very good ecology department, and pays attention to the interaction between humans and animals. Besides, there is a lot of scope for personal supervision by teachers there. That is also why I am now doing my PhD with Frank van Langevelde in the Wildlife Ecology and Conservation Group. That personal contact is truly unique to Wageningen. When teachers see that you have a real passion for something, they give you plenty of scope

for cultivating it. The more the university grows, the harder it gets for teachers to give students that kind of attention.'

A few years ago, you said too little research was done on reptiles.

Have things improved since then?

'Luckily there have been some new discoveries since then, especially about the social life of reptiles. We now know, for instance, that Cuban boas hunt in groups, and that they even communicate with each other as embryos in the egg, through their heartbeats. And it is also known that the pinecone lizard, a large lizard that looks like a walking pinecone, is monogamous all its life. But there is still a lot of unexplored territory. We don't even know the size of the populations of many species. That is part of what makes working with reptiles so nice – there is still so much scope for new, ground-breaking discoveries. I can really recommend it to students.'

Like the research you worked on into the immaculate conception among king cobras, which was published in Nature Scientific Reports this year?

'I got a phone call in 2015 from someone I know who keeps snakes and had a king cobra that had laid eggs without having had any contact with a male. I went to pick up the eggs with my then boyfriend, snake expert Romilly van den Bergh, and put them in the incubator. Two embryos from the 24 eggs proved viable. Both embryos,

both males, survived for a few days. DNA research showed that what had taken place was parthenogenesis: immaculate conception. In parthenogenesis, during meiosis (the ripening of the egg cells), it is a polar body (a by-product of meiosis) that merges with the egg, rather than a sperm. This happens in a different way every time, so that 24 unique gene packages were created, two of which turned out to be viable. We already knew that a few other species of snake, shark and lizard could reproduce without a mate, but this had never been proven in a king cobra before. We learned more about how the mechanism works during this study, which made it special.'

I gather king cobras are good mothers?

'They are the only species of snake that makes a nest for the eggs and guards it. Now their habitat in South-east Asia is under pressure, partly because of the expansion of palm oil plantations, cobras are moving into farmland, where they run the risk of being killed by farmers. I made a documentary for The Conservation Front about Bali Reptile Rescue, which tries to save these snakes. The Conservation Front is a nature conservation organization I set up with wildlife photographer Jason Savage. As we were filming, Shinta, the woman behind Bali Reptile Rescue, passed me the hook so I could catch the snake. That was my first rescue operation, and it had me in tears afterwards. The documentary, which can be seen on YouTube, is the only one we've made so far because of Covid-19, but we want to make more about local organizations that work to conserve species whose habitat is under threat. I myself have made a few minidocumentaries and I travel around the Netherlands and Europe for my programme Reptile-mad, making items about unusual reptiles such as wild chameleons. There are interesting



Sterrin with a jungle nymph

reptiles close to home as well, and you don't have to travel to exotic places to find them.'

Is your PhD research about reproduction in reptiles?

'No, that is about the ecological trap hypothesis. Animals use evidence from their surroundings to find new habitats, but they can make wrong choices if a habitat seems more attractive than it really is. Dead reptiles and amphibians are often found in irrigation channels and water troughs for livestock. I want to find out what triggers attract them to such places, and why they die there. In my spare time and on holiday, I'm always nosing around wells and water tanks, saving reptiles and amphibians. I am busy with reptile conservation all the time.' ■

'I'm in love with all animals'