



Big Bugs in a Brilliant Building

I have to admit that I have just been very impressed by a stick insect. No, not Victoria Beckham, though she is impressive. This is Chan's Megastick and it needs a three page fold-out in George Beccaloni's brilliant new book, *Big Bugs*. As the Curator of Orthopteroids at the Natural History Museum (NHM) in London, he knows what he is talking about. This well produced book, with life size photos of the kind of bugs which get into books of records, will be grabbed by young enthusiasts and treated with respect by adults and children alike.

George's interest in natural history goes back a long way. He says his earliest encounter was at the age of two or three when he lived in Kenya. He mistook a giant, curled up African millipede for a biscuit! It took his mother some time to deal with the foul smell of the protective liquid it projected all over him. Undeterred, he began to collect when he was about ten, starting with butterflies and beginning a journey which has brought him to his post at the NHM.

In the book, the term bug is being used in its popular sense, so there are butterflies, spiders, beetles, dragonflies, wasps, earwigs – a whole range of creatures as well as the true bugs. As he began to work on the book, even George was surprised at some of the gaps in the knowledge. He had to consult around seventy other experts, re-examine the



Photo of George Beccaloni © NHMPL (Natural History Museum Picture Library)

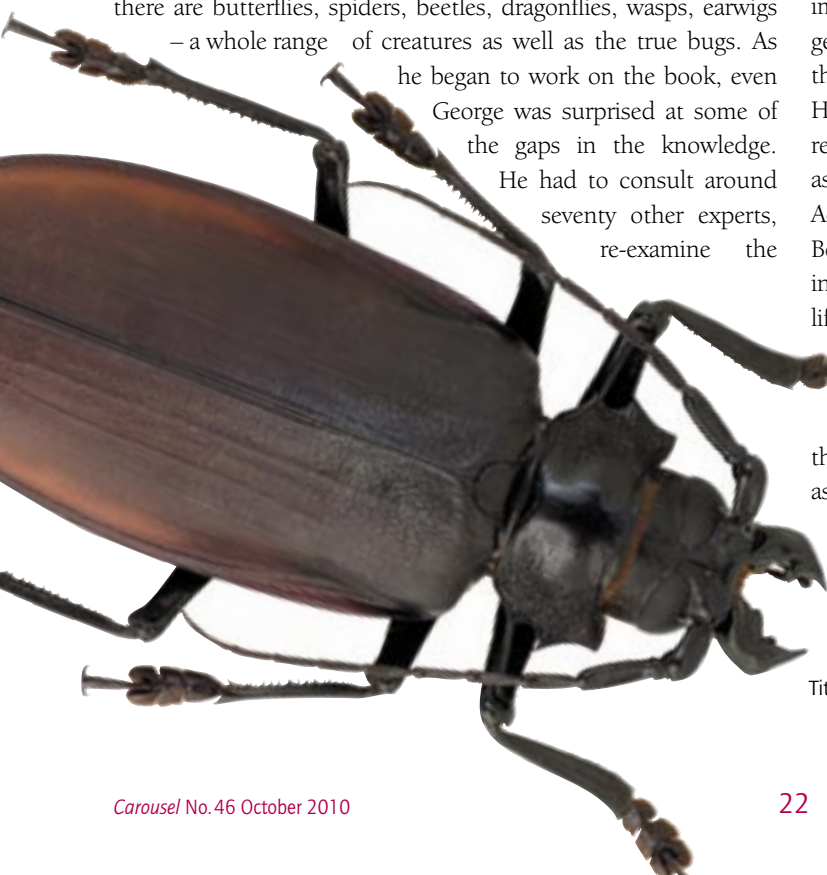
scientific literature and “sift through all the misinformation on the internet.” The result is that some of the material is new. He chose the ‘biggest’, ‘heaviest’, the superlative approach because he knew that this aspect fascinates people and he tried to pitch the book so that keen young readers could tackle it while the more experienced would also find it useful. A reference section at the end attests to his serious research but even the youngest children will be attracted to the excellent photographs.

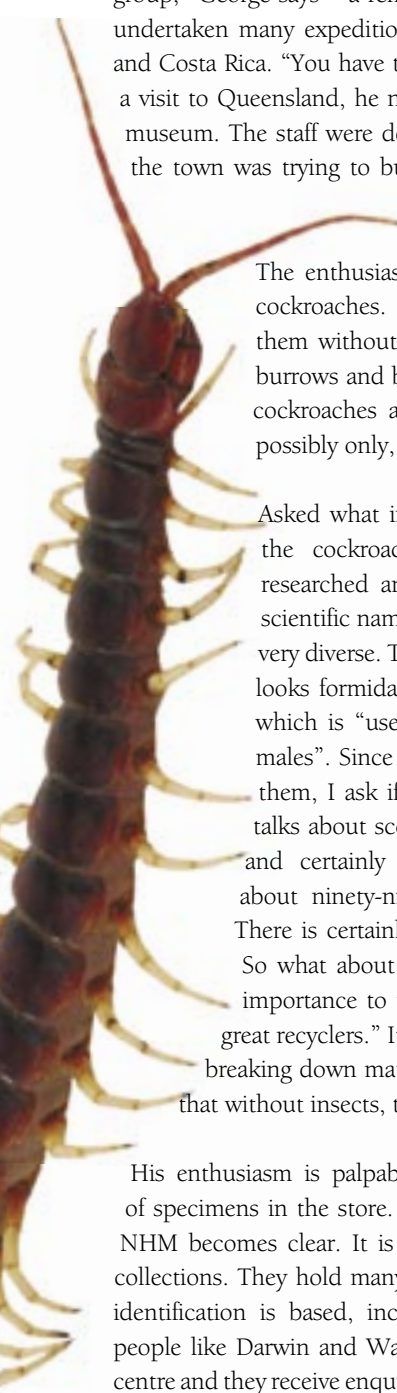
It begins with an introduction which gives precise definitions of his approach, in itself a good indication of the way scientists work. Then each example is headed by a fact box which gives the size, scientific name and distribution of each bug and includes a location map. There is at least one life size

image of each example, plus several other photographs which may show the habitat or a different form or the creature ‘in action’. The rest is a mixture of thrills and beauty. The Goliath Bird-Eating Spider is perhaps not something you want to meet on the bathroom floor, with bare feet, but it is undoubtedly impressive. George reassures us that “As a rule of thumb, it generally tries to eat anything smaller than itself.” Compare this with the fragility and translucence of the Giant Helicopter Damselfly. The largest adult male specimen recorded has a wingspan of 190mm. There is a kind of astonishing beauty in the symmetry of the stunning Actaeon Beetle, or the functional shape of the Hercules Beetle. The latter seems well named according to the information that a male that weighed 30g was able to lift a weight of 2kg on its horn! (So this where the writers of science fiction get their ideas for alien characters from.) Then look at the camouflage of the Giant Asian Mantis or the Giant Leaf Bush-Cricket. Wonderful. It seems astonishing that anyone has been able to find them.

The photographs in the book reveal not only the brilliant camouflage of these creatures but many are also nocturnal or live high in the forest canopies.

Titan longhorn beetle © George Beccaloni





Is their study therefore particularly difficult? “It depends on the group,” George says – a reminder of their great diversity. He has undertaken many expeditions, to Papua New Guinea, Ecuador, and Costa Rica. “You have to know where to look,” he adds. On a visit to Queensland, he noticed a cockroach in a jar in a local museum. The staff were delighted that he had noticed because the town was trying to build a reputation as “The Cockroach Capital of Australia” and they directed him to a local naturalist.

The enthusiast took him out and they found the cockroaches. It would have been difficult to find them without this local knowledge as they live in burrows and block the entrance. So George got his cockroaches and the town found its perfect, and possibly only, tourist.

Asked what interests him particularly, he chooses the cockroaches. He says they are less well researched and only about half have been given scientific names. He says they are a small order but very diverse. The Rhinoceros Cockroach on his desk looks formidable with a large plate above its head which is “used for fighting and turning over rival males”. Since so many people seem anxious about them, I ask if bugs are dangerous to humans. He talks about scorpions as being the most dangerous and certainly some scorpions do kill, but says about ninety-nine per cent of bugs are harmless. There is certainly really very little danger in the UK. So what about the function of bugs? What is their importance to the planet? He replies, “They are the great recyclers.” It seems that they are a key to ecology, breaking down material and releasing nutrients. He says that without insects, the planet would grind to a halt.

His enthusiasm is palpable as he shows drawer after drawer of specimens in the store. As he speaks, the importance of the NHM becomes clear. It is the world’s largest centre for insect collections. They hold many of the original specimens on which identification is based, including the historic specimens from people like Darwin and Wallace. They are, in effect, a reference centre and they receive enquiries from all over the world. They even lend specimens. Now, as part of the Darwin celebrations, they have built a stunning section for the bugs called the Darwin Centre. If you are planning a visit to London, this is a destination well organised for receiving young people, full of interactive possibilities and with a brilliant extra. You can pick up a Nature Plus card, a small ‘credit card’ with a barcode. At each exhibit that interests you, simply scan your barcode. When you get home or back at school, log on to www.nhm.ac.uk/natureplus, put in your number and find out more. Here, you can view everything you collected in the Museum, take part in discussions, watch videos, get questions answered. Even for those who can’t

Empress Cicada
© George Beccaloni

get there, the website is very nearly, though not quite, as good as a visit.

On arrival, the visitor to the NHM in London can go to the top of the ‘Cocoon’ in the Darwin Centre and wind down through the Centre. Inside this cocoon shaped building, there are videos by friendly staff, interactive screens, information panels and specimens at each level. There is a good introductory overview and then sections on important areas like research, field trips and preparing specimens. All around are glass windows into the staff areas so visitors can see the work of the Museum as it goes on. The graphics are great. They solve the problem of magnification in a heavily used area with projections on to the screen and tabletop. They illuminate important world concerns, taking us, for example, through research on the malarial mosquito or the effects of climate change. There is even a kind of debating chamber where questions are posed: “The study of nature is not relevant. Agree or disagree?” and the visitor can respond. The new Attenborough Studio is also part of the Darwin Centre, showing films, hosting discussions and fun events. The Museum offers one of the best examples I have seen of explaining the work of a Museum to the public. The NHM has another museum in Tring, in Hertfordshire, and there, until the end of November, you can see a special ‘Big Bugs’ exhibition. A small gallery has been set aside to display not only some of the stars of the book but live exhibits, too! A special environment has been created for them and there is a touch screen, information boards and bug games for children. Afterwards, hang out in the Zebra Café, if you can get past the pocket money creatures in the shop.

The new Darwin Centre is only part of the London NHM, of course. The dinosaurs and all the rest are still there and the building has plenty of family friendly facilities. Friendly seems the operative word for this Museum. As you leave the Darwin Centre, a final video reminds the visitor that amateurs have always been important in the study of nature. The whole approach is generously inclusive.

Future naturalists may well be inspired by the collections and future bug specialists can get off to a good start with a copy of the very reasonably priced *Big Bugs* for Christmas.

Pat Thomson

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