

Don't Let Them Bug You

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Not everyone shares my enthusiasm for big, crunchy bugs.

Back in 1998 when I was on a writing assignment in East Timor, an Indonesian friend and I were staying at a rustic house in the mountains north of Dili. After dark a generator powered a few light bulbs and one on the balcony lit up a big white wall. At night, this became a stage for a remarkable cast of bugs attracted to the light. Huge bugs, weird bugs, prehistoric-looking bugs... they all arrived to strut and lurk on the brightly lit wall. Big bugs stalked smaller bugs. Bats and lizards made cameo appearances from dark corners, swooping on and off stage to score a snack. One ambitious cicak clamped down on a huge beetle twice his size and stood there, flummoxed, as a frill of long, active legs bristled from his mouth. It went on as long as the generator hummed, with an ever-changing cast of exotic creepy-crawlies. I was riveted in my chair. Sophie, who lived in a sterile apartment in Jakarta, thought it was disgusting. "Ugh! Bugs!" she wailed.

Yes, bugs. Where would we be without them?

Ecologists say that if all the humans were to suddenly vanish, the environment of Earth would improve, but if all the insects were to disappear it would be a disaster. Insects are an integral part of the ecosystem, while humans are often its worst enemy.

Insects serve as the largest source of food for many animals and birds, and these would quickly die out if insects disappeared. Without insects to pollinate food and flowering plants a huge number of other species, including ours, would quickly be in serious trouble. Insect pollinators are responsible for much of the food we eat. If the plants used to feed livestock vanished, so would meat. Fruit and most vegetables would disappear. So would cotton. About the only food in the market that can't be traced back to a plant that was pollinated by an insect is the date. Dates have been cultivated for so long that they now only reproduce through the intervention of humans.

Although most people refer to any sort of creepy-crawly as a bug, scientists use the term 'arthropod' to refer to insects, spiders and other critters. (The Latin word *insectum* means 'with a notched or divided body'.) They are among the most diverse groups of animals on the planet, including more than a million described species, with probably millions of others awaiting classification, and representing more than half of all known living organisms. There are over 500,000 kinds of beetles alone, which seems pretty extravagant. And of those one million species, under one percent are considered to be serious pests. Most are either harmless or beneficial to humans and agriculture.

"Insects have been around for about 400 million years. Each has its place in the food chain, providing food to all manner of predatory insects and arachnids as well as the 'higher' animals of which birds are perhaps the most obvious," explained Ron Lilley, a Sanur-based naturalist I often turn to when writing about Bali's creatures. "They act as decomposers in the soil, the herbivores chew up the leaves, the carnivorous beetles eat the other bugs, and the carrion feeders dispose of all the carcasses that litter the island. Then there are the various and many pollinators; some are generalists, while others are attracted to the nectars of only very specific plants."

Bali's rapid development is not only displacing wildlife like snakes, rodents and birds, but huge doses of pesticides in the agricultural sector and the practice of 'fogging' for mosquitoes displaces or kills millions of beneficial insects. As these chemicals wash down through the subak systems and into the soil, water table and rivers they contaminate wells, lakes and the seas, causing algae blooms which can kill fish. Dependence on pesticides becomes a vicious circle; the non-tolerant insect species die out, while the resistant ones mutate and become ever more resistant.

David Lowenthal, a Bali-based Englishman, recently held a photographic exhibit in Ubud of some of the absolutely gorgeous bugs to be found in Bali. A passionate environmentalist, he's been a keen observer of insects and sea creatures since his teens. "The human population is totally out of control," he says. "It took Homo sapiens approximately 150,000 generations to reach a population of one billion in 1870, but in the past 140 years alone we are well over 7 billion and heading for 11 billion people. These growth figures, combined with a massive rise in the middle classes around the world (all wanting more of everything instantly), are creating unprecedented pressures on the natural world. This in a way was the intended message from my 'INSEXTS' exhibition. Who are the real pests on the planet?"

Because there are no short-term returns from studying bugs (or other wildlife) in Bali very little money, expertise and resources are allocated to researching the wild life here. The few books available are labours of love. David found it difficult to identify many of the bugs in his exhibition. This is the main reason he decided to create the website www.baliwildlife.com as a mini reference library-encyclopedia for as much of the wildlife in Bali as possible.

"Bali is going through a major transformation at this time," he pointed out. "With a rise in the Balinese population, a construction boom, habitat loss, mass Indonesian and foreign tourism and a huge increase in the numbers of trucks, cars and motorbikes I felt it was important to document what is here now in order to raise awareness. Hopefully the Baliwildlife website will gain attention and people will realize how many species we might lose through extinction in the coming years."

Ron agrees. "I think there's no doubt that changes in the local ecology through careless use of pesticides, rises in temperature and other weather changes are currently affecting the ecological balance here in several dramatic ways. Because bugs are part of much bigger biological systems, environmental changes like the removal of predators can and do cause 'plagues' of various sorts... recently, swarms of irritant caterpillars and the notorious 'tomcat' beetles."

We're happy to welcome the butterflies, dragonflies and bees but less happy to see cockroaches and scorpions. While I will tenderly relocate dazed beetles and leggy mantises from my bedroom to the great outdoors, I do draw the line at some of their bug brothers. What excuse can there possibly be for mosquitoes or bed bugs? The dreaded pediculosis pubis? Or the centipede, a sinuous, fast-moving creature that can reach a length of 35 centimetres (although mercifully not on Bali) and pack a beastly bite. I've been known to drop a heavy book on top of a centipede that suddenly appears in the house, then jump up and down on top of it as centipede legs fly in all directions. (Don't try this with a Kindle.)

But centipedes eat cockroaches, so it gets a bit complicated. Every time we remove one bug from the food chain, another goes hungry. I do feed locusts straight to the chickens... it's either them or my lettuces. But most of them are doing their jobs controlling pests and making compost. I don't let them bug me.

David's delightful photographs, which often capture Bali's insects sharing a tender moment, are available as large mounted prints. Contact him at davidlowe2010@yahoo. co.uk

Ibu Kat's book of stories *Bali Daze - Freefall off the Tourist Trail* is available from:

1. *Ganesha Books in Ubud and Seminyak*
2. *www.balidazethebook.com* downloadable as a PDF file
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