

Insects and Gardens – In Pursuit of a Garden Ecology **Eric Grissell**

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It's sometimes difficult to know quite why one book appeals more than many others. To some extent the reader must be primed to enjoy it from previous interests. Undoubtedly it also requires that the author really knows his or her subject. But even more important is the sense that this learning is worn lightly. And with a little humour thrown in for good measure, any subject can catch the imagination. So

why should I write this? Well, as gardeners we have an ongoing love/hate relationship with insects of all sorts. With some we are on good terms and know a little, or even quite a lot, about their lifestyles. With others, the less said about them the better, and generally our reaction is the spray-can or heavy boot.

As an enlightened gardener I have been captivated by Eric Grissell's *Insects and Gardens - In Pursuit of a Garden Ecology*. Probably it will sell rather less well than colourful books of pristine plants and borders, which is a shame, as we all know that a lot more goes on in the garden than meets the eye, and that insects play many important roles. Indeed the book is dedicated to Rachel Carson, author of *Silent Spring*, who developed a more sophisticated sense of the complexity of natural relationships than we often acknowledge even today. Even in the first few pages of Grissell's book there is much to enjoy. So after a quick look at creepy-crawlies that aren't really insects (such as scorpions, spiders, millipedes and centipedes) he takes us through a succinct, but highly informative and deftly written, overview of the different orders of insects found in the garden, plus, as he puts it, 'each of the remaining orders for those who enjoy knowing things for no apparent reason'. As the book is written from an American perspective we're told about 'the perfectly wonderful din of cicadas' and warned about our houses (wooden) being eaten by termites. Here is an author with a playful streak as well as a deep knowledge of his subject and an enviable ability to explain it to the novice.

Instead of pretty pictures of flowers we have excellent colour photograph illustrations of insects (sometimes with flowers), by Carll Goodpasture, with extended and informative captions: Grissell finds it difficult not to like bumble bees, 'they are furry, funny, and dedicated to one thing – work'. Not a great deal different from many of us you might say! The well-posed photograph of blowflies feeding on dung may have rather less immediate appeal, even though they have equal importance in the ecology of the garden.

The book is divided into three sections: an introduction to insect development

and lifestyles; their role in the ecology of the garden; and the relationship between insects and gardener. Probably the most important point the author makes is the complete ubiquity of insects and the foolishness of coming down too hard against them in the garden, if only because it is easy to cause more harm than good. Even so, I find it hard to live with the giant lupin aphid and the few other insects that have the ability to destroy plants completely. (For me these are in the same league as the rabbits and pheasants which have caused such havoc in my garden this last winter.) On the other hand, the ability of plants to tolerate the depredations of insects is remarkable, none more so than our native oak.

The value of ladybirds, lacewings and hoverflies as predators of aphids is well known to gardeners, as well as ground beetles that eat slugs (Grissell also mentions the predatory firefly in America: would that we had this remarkable insect in British gardens too). Our relationship with wasps is more ambivalent, despite their rapacious appetite for caterpillars and other insect pests. The group they belong to, the *Hymenoptera* (which also includes bees and ants), has a largely positive role in the garden, apart from the occasional sting! Even the much maligned earwig feeds on the eggs of slugs and on mites, nematodes and insects such as aphids and mealybugs, though it will undoubtedly eat plant material too.

One of the less attractive aspects of insect ecology is parasitism. However, in regard to controlling of pests such as aphids, caterpillars and mites it is a highly positive attribute. Such natural pest-control, particularly in greenhouses, is becoming more and more valued. Gardeners who grow fuchsias, for example, may have had terrible outbreaks of white fly in certain years, whilst in others there have been few white fly on their plants, in part owing to natural biological control and in part, probably, just due to luck. The same processes go on in the wider garden outside, largely owing to tiny parasitic wasps and, to a lesser extent, flies. It's easy to see how indiscriminate use of insecticides can lead to drastic disruption of the natural 'balance', even though there are occasions where this balance does seem to get out of hand without our input (notably where many of the same plant are grown together, which does have a little to do with us!).

This balance, of course, is a highly dynamic process and the greatest contributor to it is diversity, first of plants and then of the fungal and animal life associated with them. A simple trick Grissell recommends is to visit gardens and garden centres regularly throughout the year and observe which plants most attract different insects. In this way you can be sure of attracting a much wider range of species into the garden, as well as having a sustained period of flowering. The New York entomologist Frank Lutz recorded almost 1500 different insects in his small suburban garden and yet most of us probably never notice more than a few dozen throughout the year, and have a predilection for just a few such as butterflies, bees and dragonflies.

Probably one of the best ways of increasing diversity is to introduce water into the garden, even on a relatively small scale in containers or half barrels. Apart from mosquitos it seems that almost all insects associated with water are useful predators. Variety can also be enhanced by creating mounds and different soil types, such as rock gardens, in which to grow many more plants. It's also important to enable insects to overwinter in the garden – a good excuse, if one is needed, to be less than tidy in the autumn. Mulches and garden debris are refuges for many beasties, as the blackbirds who delve through them know well.



Ants tending aphids

To encourage many insects to persist in the garden, one needs to provide host plants for their larvae as well as flowers and nectar for the adults. Most well known, of course, are the butterflies whose caterpillars often have very specific hosts on which they feed. A patch of nettles is always good, especially in a neighbour's garden, and dock is the foodplant of the pretty small copper as well as a multitude of moths. It may be difficult in a small garden to tolerate such weeds, but hopefully there will be places nearby to provide sustenance for caterpillars and enable their adults to come into the garden.

The much loved honey bee is native to neither America or Europe (where it has been established for over 2000 years), and is thought to have come from south-east Asia. In this sense the concern over its recent decline as a vital pollinator may be overstated. Nevertheless all gardeners welcome it into the garden and marvel at its industry. Its efficiency as a pollinator of course relates to its colonial habit and ability to transmit information to others about food sources. In a similar way, ants and wasps co-operate constructively, as a few minutes watching them soon shows you, even if they are not regarded as positively as bees! One of my greatest excitements in the garden was finding a colony of bumble bees in the compost heap; another, more painfully, was a hive of bees in an old hollow cherry stump; the ants that burrow up under the cushions of alpine plants on the rockery are less welcome!

The message of this book, then, is to become more philosophical in our relationship with insects, and less demanding of perfection in our gardens – ideals that are rather obvious but can be difficult to accept nonetheless. Although gardens are inevitably artificial and ephemeral, they can sit less or more happily in the wider landscape and its natural flora and fauna.

Tim Ingram

He explains the vital role insects play in every garden ecosystem and writes about the various orders of insects, describing how the insects grow, feed and reproduce. Eric Grissell, entomologist with the U.S. Department of Agriculture, gave a lecture and slide show on his book, "Insects and Gardens: In Pursuit of a Garden Ecology." Grissell suggests it might be time to declare a truce with insects in the garden. He explains the vital role insects play in every garden ecosystem and writes about the various orders of insects, describing how the insects grow, feed and reproduce. Event Date. July 27, 2005. Notes. - Eric Grissell was born in Washington, D.C., and grew up in the San Francisco Bay Area. In pursuit of insects I have travelled the world, from the deserts of Patagonia to the icy peaks of Fjordland in New Zealand and the forested mountains of Bhutan. I have watched clouds of birdwing butterflies sipping minerals from the banks of a river in Borneo, and thousands of fireflies flashing in synchrony at night in the swamps of Thailand. Imagine green cities filled with trees, vegetable gardens, ponds and wild flowers squeezed into every available space " in our gardens, city parks, allotments, cemeteries, on road verges, railway cuttings and roundabouts " and all free from pesticides. We must transform our food system. Growing and transporting food so that we all have something to eat is the most fundamental of human activities. Insect ecology is the scientific study of how insects, individually or as a community, interact with the surrounding environment or ecosystem. Insects play significant roles in the ecology of the world due to their vast diversity of form, function and lifestyle; their considerable biomass; and their interaction with plant life, other organisms and the environment. Since they are the major contributor to biodiversity in the majority of habitats, except in the sea, they accordingly play a variety of... Insects and Gardens " In Pursuit of a Garden Ecology Eric Grissell Timber Press 2006 Paperback 345pp, £14.99, ISBN: 9780881927689. It's sometimes difficult to know quite why one book appeals more than many others. To some extent the reader must be primed to enjoy it from previous interests. and lifestyles; their role in the ecology of the garden; and the relationship between insects and gardener. Probably the most important point the author makes is the complete ubiquity of insects and the foolishness of coming down too hard against them in the garden, if only because it is easy to cause more harm than good. Even so, I find it hard to live with the giant lupin aphid and the few other insects that have the ability to destroy plants completely.