## VACATIONING IN FLORIDA IN JANUARY.

While vacationing and relaxing in Florida this past January, I pursued one of my favorite hobbies, reading. One of the most impressive articles I read was by Sid Moody, of the Associated Press in the Tampa Tribune. It was in reference to insects as the prime competitors on this planet. And as a noted entomologist put it, "This is not the Age of Man. It is the Age of Insects".

Insects eat the food that sustains us, the fibers that clothe us, the buildings that shelter us. They carry diseases that kill us by the millions. And as our population increases, and demands more in the resources to feed ourselves, so they are increasing along with it. They come equipped for the struggle and because of their size it fits them into a life on this earth.

In most cases they are very prolific. An East African termite queen lays 43,000 eggs a day. Some queens live 40 years and more. If all the offsprings of one housefly couple in Indianapolis, for example, survived for a year, they would cover Indiana 47 miles deep. Insects are also very adaptable. They live in the Antartic, in tar pits, and in sulphur springs. Bedbugs can survive four years without eating. An African fly can lie for a decade in the dust of a dried lake bed. Add water, and it pops to life.

They eat anything. Wire insulation in TV sets. People. Crops. And, fortunately, each other. A species of cabbage beetle has an insect parasite that has a parasite that has a parasite in this sequence the first parasite is deemed beneficial, the second a pest, the third beneficial again because he destroys the whole ball of wax.

Insects often mate in strange ways. The strepsipters beetle does it while the female is a parasite aboard a bee. And the dragon flies will mate while zooming through the air at 25 mph. If anyone of us feels our sex life may have lost some of its zip, maybe by practicing some of these acts could lead to a complete new and exciting life for us. Just a thought.

Insects must also be given their due. No bees, few flowers. They decompose vegetation and help produce as well as aerate the soil. And, since every insect has an enemy that predatorizes or parasitizes it, they keep things somewhat under control.

And of course, the insect's ultimate weapon is choice. If things are getting "too hot" in the neighborhood or the supply is running low, they can simply get up and fly away. And insects don't seem to be that concerned about man. They ought to be damn grateful. Man grows the crops they like. He builds houses for them to gnaw on. He even flies them across oceans in jets, and opens a new area for them free from their enemies back home.

Insects also have time on their hands. The cockroach has been chewing its way through life for 300 million years. Nobody ever believes that they have seen the last of him. Man's recent arrival has only meant that he now has an improved and varied diet.

Ever since man came on this earth he has tried to eradicate or control insects. He is still trying. In England, Tiffin and Son advertised themselves a century ago as "Bug Destroyers to Her Majesty". It's a safe bet Queen Elizabeth is not alone at Buckingham Palace even at this moment. It has been the general opinion of most people, especially entomologists, that "insects have always been the best control of insects". In the 1880s, cottony cushion scale began to blight orchards in California. The blight was believed to have been accidentally imported, from Australia. The

scientific method was employed. What eats cottony cushion scale in Australia? Entomologists brought back the vedalia beetle from Australia, and the scale was controlled.

In World War II when DDT first synthesized, it was used to halt a typhus epidemic in Naples. We thought we had the ultimate. It seemed a lethal weapon -- and was, good and bad. DDT got into public trouble in 1962 with the publication of Rachel Carson's book, "Silent Spring". It seemed that DDT was zapping a lot more than bugs, us included.

In the case of DDT, the argument would have become debatable in time because DDT was losing its punch. Insects, through the genius evolution, were developing resistance to the chemical. The explanation is simple. Sprays might kill 990 out of 1000 insects. But the 10 who survive have a genetic make-up that resists the insecticides, and they became the new breeding stock. So instead of eliminating the pest, the insecticide has helped to produce a super-bug. As one entomologist said, "You're always going to have a fly that won't sit on flypaper, and their genes will be the ones that survive.

The fact that insects reproduce so rapidly and in such numbers enables them to change their genetic base quickly. And it means there is no ultimate spray. Pesticides have not permanently solved a single pest problem. This is not very good news, considering that insects eat an estimate 10% of America's food and fibers and do annual damage put at 100 billion dollars worldwide. And in order to feed the world by the year 2000, we will need this addition to what we are growing now.

Farmers have steadily increased their production since 1900, but there is a limit to how much food can be produced. A bigger crop presents much bigger opportunities for insects. At the same time, with environmentalists seemingly everywhere, everyone is taking a long, hard look at chemical pesticides. Too long and too hard, according to some. The whole DDT fight --- the chemical has been banned since 1972, along with many others now --- has spawned environmentalists, glorious amateurs, and "aroused" citizens with a knack for talking about what they really don't understand.

Also pesticide research has suffered because of the time and expense of meeting EPA standards. Last fall when I attended a 5 day seminar at the Purdue University on "Use of Pesticides", to renew my state license to apply pesticides and fungicides, we were told that the cost to chemical manufacturers to have a new product labeled was between one and three million dollars, and sometimes took three to five years for approval. It makes you wonder sometimes if the insects will get you before help is available. But, the researchers want to make sure the produce is good and safe. And how good is good and how safe is safe? They don't really have a universal standard for a risk-benefit factor. And all of us react differently to a DC-10 crash or a tumor in a bunch of mice.

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