

An Official 'Bad-Bug-Movie' Review
ENT 812, Insects in the Cinema
Michigan State University

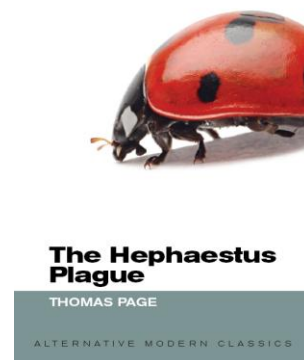
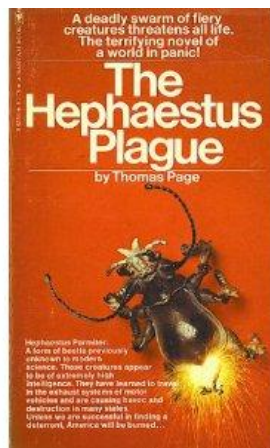
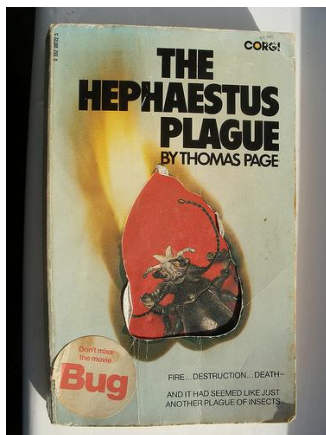
Bug (1975)

Reviewed by Sarah Willson

“They Look Like Rocks...Possess A High Intelligence...Have No Eyes...And Eat Ashes...They Travel In Your Car Exhaust...They Make Fire...They Kill.” (movie tagline).

Background

The movie *Bug* is based on the novel *The Hephaestus Plague*, which was written by Thomas Page, “master of environmental bio-terror” (Trashface Books). The book was first published in 1973 by G.P. Putnam’s Sons, New York. New editions were published by Corgi Books (1975), Bantam Books (1978), and most recently by Trashface Books Ltd., Dublin, Ireland (2008). In the newest edition, the cover image of sinister-looking, flaming insect has been replaced by a somewhat less-than-sinister-looking picture of a ladybug. The posterior end of the ladybug, which should theoretically be spouting flames, has been cut out of the picture. The title of the book has now been adopted as the name of a death metal band (<http://www.myspace.com/hephaestusplague>).



Bug was directed by Jeannot Szware. His career began in the late 1960s. He has produced a few other movies, such as *Jaws 2* (1978), but he primarily produces episodes for television shows. Recently he has produced episodes for *Heroes*, *Cold Case*, and *Grey's Anatomy*. The screenplay was written by William Castle, who also served as the producer of the film. In his career he served primarily as a director and sometimes as an actor. He had a minor, uncredited acting role in *Bug*, which was the last film of his career.

The special effects were done by Phil Cory, and the movie won the 1976 “Medalla Sitges en Plata de Ley” for Best Special Effects from the Sitges-Catalonian International Film Festival. This movie was made at the beginning of Cory’s career. He has most recently been involved with special effects in *The World’s Fastest Indian* (2005), and *The Aviator* (2004). He also served as the pyrotechnic foreman for *The Dukes of Hazard* (2005).

The main character in the film is Professor James Parmiter, played by Bradford Dillman. Dillman also acted in another insect movie, *The Swarm* (1978), in which he played the role of Major Baxter. The role of Professor Parmiter's wife, Carrie Parmiter, was played by Joanna Miles. Gerald Metbaum was played by Richard Gilliland, who has appeared in numerous television shows, most recently as Dr. Brent Avedon in *Desperate Housewives*.

The movie was nominated for (but did not win) the Golden Scroll Award for Best Horror Film, from the Academy of Science Fiction, Fantasy and Horror Films, USA, in 1976. *Bug* was filmed at Paramount Studios in Hollywood, California. Parmiter's house was originally the set of the Brady Bunch house.

Parmiter's Kitchen



Brady Kitchen



Cultural Aspects

Bug was released in 1975. There did not seem to be any major events that would have inspired this film around that time. The only events that seemed even distantly relevant to the movie were the gas crisis, and a major earthquake which occurred in Nicaragua in 1972.

Females were not important in the book. In the movie there were more females, but they seemed to be there only so they could be killed off by the fire bugs.

Parmiter was a stereotypical "mad scientist" in the film. His obsession with the roaches and his desire to "play God" led to massive destruction and to his own downfall. This may reflect a general distrust of science. The overall message of the film seemed to be that we should not interfere with nature.

The Story

The movie began by showing a church in the foreground, and a small town in the background. From the very beginning of the movie there was continuous reference to heat. The preacher in the church was giving a sermon about hellfire, and the congregation members were all fanning themselves. In the middle of the sermon there was an enormous earthquake, complete with obvious waves moving across the floor of the church. This earthquake opened a large chasm in the nearby Tacker farm. From the chasm emerged a new species of insect, which could start fires by rubbing together its cerci. They fed on carbon, preferably in the form of ashes, carbon monoxide, oil and gas. Due to their appetite for carbon they were attracted to car exhaust pipes. This provided a convenient way for them to spread, and led to numerous car breakdowns and explosions.

Professor Parmiter and his assistant Metbaum took an interest in the fire bugs and began to study them. They concluded that the insects were a type of cockroach that had no eyes and was able to feed on the carbon because of its symbiotic gut bacteria. In addition, the professor realized that the insects were unusually sluggish and unable to mate because they had the bends. This resulted from them coming up from a great depth. Some of the insects hitched a ride in Parmiter's car and ended up at his house. One ended up on his wife, Carrie, and set her hair on fire, ultimately killing her.

Throughout the rest of the movie, Parmiter became increasingly obsessed with the insects and started to go crazy. The audience was continually reminded of the intense heat by the ever increasing amount of sweat on the back of the professor's shirt. The professor enlisted Metbaum's help to make a pressure chamber to simulate the insects' natural environment, thus relieving their bends. He introduced a normal house cockroach to one of the new species and allowed them to mate. This resulted in the production of a new, super-intelligent hybrid which lived colonially. The roaches were carnivorous, communicated with each other, and acted as a single unit.

Parmiter kept them in an unlatched wooden container, so they were continually escaping, killing people, and causing other fiery mischief. One night when they escaped, Parmiter awoke to see that they had spelled out his name on the wall. The roaches continued to communicate with Parmiter by spelling out words.



Eventually they bred again, creating a new hybrid which then had the ability to fly. They attacked Parmiter, chasing him into the crevice from which they had originally emerged. He fell in, the roaches followed him and the crevice suddenly closed, sealing them all away.

Differences between the book and the film:

The fire bugs were much more likeable in the book than in the film. The fire bugs were like pets to Parmiter. Parmiter reflected that he felt a connection to the roaches because they came from caverns, and he also had caverns (walls he built against other people). One roach in particular would escape regularly, and seemed to enjoy playing "hide-and-seek" with Parmiter. The roach would escape from his cage, and would then

wait for Parmiter to find him. If Parmiter did not look for the roach, it got upset. Parmiter also noticed that the roaches seemed to be interested in him, and responded to his presence. In the book the hybrids ate garbage, not meat, so they did not bite people. While somewhat disobedient and mischievous, they did not go around randomly attacking people. The fires that they started were caused because they were trying to feed, not trying to cause mass destruction. In the movie, after the death of Parmiter's wife, Parmiter seemed to have a vendetta against the roaches. In the book, however, Parmiter was unmarried, and while obsessed with the roaches, he did not have the same sense of vengeance as in the movie.

In the book, the behavior of the roaches only became sinister in self-defense, and only after Parmiter killed one of them with bug spray. Parmiter observed that they seemed to have been traumatized by the event and began acting differently. When Parmiter invited another scientist to see the roaches, the scientist told Parmiter that he must either contain the roaches in a lab or kill them. The roaches spelled "no no no" on the wall, and then as the scientist drove away they blew up his car. The roaches then appealed to Parmiter to help them to return into their chasm, which had been cemented over early in the book. When Parmiter refused, they burned down his house. At this point in the book the roaches began to migrate back to their chasm. Due to the bug-spray incident, people were then considered to be a threat, and it was only for this reason that the roaches began attacking them.

However, at the end of the book there was reconciliation between Parmiter and the insects. Parmiter reconsidered his earlier refusal, and decided to help the roaches. He took dynamite to the chasm, and upon meeting the roaches there, he told them who he was. The roaches then cleaned the sand off of the cement covering the chasm so he could set the charge. They then traced "goodbye" in the sand and migrated back into their chasm, with Parmiter then disappearing with them into the pit.

Entomological Aspects:

Some of the roaches used in the film were live, and others were models. The flying roaches at the end of the film were very obviously models suspended with string. One of the roaches used in the film was named Hercules and was said to have had a million dollar insurance policy.

Three species of cockroaches were used in the movie. The first was a common household roach *Periplaneta americana*. These were then supposedly crossed with the fire bug, which was played by *Blaberus giganteus*. This resulted in a hybrid roach, played by Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*).

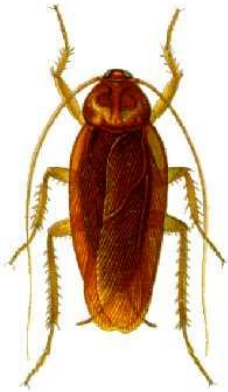
The fire bugs in the movie were supposedly blind. In one scene the professor holds up one of the bugs and exclaims that it has no eyes. In fact, he was holding a roach that did have eyes. Roach eyes are small and not obvious to the un-trained observer, but are there nonetheless.

In the movie it was explained that the fire bugs had symbiotic bacteria, eliminating the need for a digestive tract. Real roaches do carry symbiotic bacteria (Sacchi et al. 2000), but still have a digestive tract.

In the movie, a fire bug was mated with a household roach to create a new hybrid species. Hybridization of roaches is known to occur. A *Blaberus craniifer* / *Blaberus fusca* cross is sold as reptile food, under the name of "Brown wing death's head roach"

(New York Worms, Long Island, New York). However, these are two closely related species of the same genus. In the movie, Dr. Parmiter designated a new genus and species name for the fire bugs. This implies that they were not closely related to the common house cockroach, and therefore it is unlikely that they would actually have been able to produce viable offspring.

Periplaneta americana



Blaberus giganteus



Gromphadorhina portentosa



In trying to determine why the fire bugs were sluggish and unable to mate, Dr. Parmiter concluded that they were suffering from “the bends,” as a result of them coming up from deep in the earth into a lower pressure environment. While insects might not technically get “the bends,” they can be affected by pressure changes. Garth S. Kennington (1953), of the University of Chicago, performed a study using pressure chambers to examine the effects of reduced atmospheric pressure on two species of *Tribolium* flour beetles. He tested the response of the beetles at pressures equivalent to 593 feet (the altitude of Chicago), 8,000 feet, and 14,000 feet. He found a reduction in fecundity and weight of the beetles with increasing pressure. In addition, the beetles seemed unable to adapt to the change in pressure over the course of the experiment (660 days).

Perhaps the most entomologically questionable part of the movie was the ability of the fire bugs to start fires by rubbing together their cerci. For starters, in the film the bugs appeared to be shooting electricity between their cerci, not rubbing them together. It is possible for certain fish to generate electrical currents. For example, the electric eel (*Electrophorus electricus*) can generate a current of 600 volts (National Geographic). However, this ability is limited to aquatic organisms because of the high conductivity of

water. Since the fire bugs were not aquatic it is highly unlikely that they would have developed the ability to shoot electricity between their cerci. Now supposing the fire bugs were actually rubbing the cerci to start fire, this would be like a person trying to start a fire by rubbing their fingernails together. Even if an insect could start a fire with its cerci it would then have a big problem. According to the Material Safety Data Sheet for chitin, chitin is “slightly flammable to flammable in the presence of heat,” and “may be combustible at high temperatures” (Spectrum Laboratory Products).

Insects were crucial to the story. While it did not necessarily need to be cockroaches, insects in general were necessary. Perhaps what makes this movie interesting is that it is so unexpected that we would be able to communicate with insects. Had the insects been replaced with something else, such as a small mammal, this would not have been as striking. Even though we can’t exactly have a conversation a pet hamster or mouse, they do seem to have individual personalities, and it is easier to get an idea of what they might be thinking or feeling than it would be with an insect.

Sources:

Review of Bug by Cinema de Merde, 2005-2009. Accessed March 31, 2010.

<http://www.cinemademerde.com/Bug.shtml>

Sonic Sound and Light, 2010. Accessed March 31, 2010.

http://sonicsound.ca/index.php?option=com_content&task=view&id=2&Itemid=8

IMBD: The Internet Movie Database. Accessed March 31, 2010. <http://www.imdb.com/>

Trashface Books Ltd, 34 Wicklow Street, Dublin 2, Ireland Copyright © 2007 |

<http://www.trashface.com/thehephaestusplague.html>

Search.com reference. “William Castle” CBS Interactive, 2010. accessed March 31, 2010.

http://www.search.com/reference/William_Castle

The Haunted Closet blog. Bug (1975) and The Brady Bunch. Aug 30, 2008. Accessed

April 5, 2010. (http://the-haunted-closet.blogspot.com/2008_08_01_archive.html)

L. Sacchi^a, C. A. Nalepa^b, M. Lenz^c, C. Bandi^d, S. Corona^a, A. Grigolo^a, and E. Bigliardi^e

(2000). Transovarial Transmission of Symbiotic Bacteria in *Mastotermes*

darwiniensis (Isoptera: Mastotermitidae): Ultrastructural Aspects and

Phylogenetic Implications. [Annals of the Entomological Society of America /](#)

[November 2000 /](#) pg(s) 1308-1313

New York Worms, Long Island, New York. <http://www.nyworms.com/roaches.htm>

Accessed April 5, 2010.

National Geographic. Electric Eel. Available:

<http://animals.nationalgeographic.com/animals/fish/electric-eel/>

© 1996-2010 National Geographic Society. Accessed April 5, 2010.

Spectrum Laboratory Products. Material Safety Data Sheet for Chitin.

<https://www.spectrumchemical.com/MSDS/C5715.PDF>

Garth S. Kennington. 1953. The Effects of Reduced Atmospheric Pressure on Populations of *Tribolium castaneum* and *Tribolium confusum*. *Physiological Zoology*, Vol. 26, No. 2 (Apr., 1953), pp. 179-203.