

The Fighting Herbs

an unpublished book *by*
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(1942–2001)

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INTRODUCTION

*“The doctors tender of their fame, wisely on me lay all the blame.
We must confess his case was nice; but he would never take advice,
Had he been ruled for ought appears, he might have lived these twenty years;
For when we opened him we found, that all his vital parts were sound.”*

Jonathan Swift

The Fighting Herbs is the story of the many plants that have been used to overcome pests and disease. The book begins with a general study of the pests that we struggle against. Many diseases and their herbal treatments are listed. It ends with a careful study of the herbs used to fight cancer and leukemia.

The use of medicinal herbs achieved its greatest height around 1880 in the United States and then rapidly declined. With the coming of synthetic remedies and “pure alkaloids,” most of the old time herbal medicine was forgotten. The new generation of doctors had x-rays, vaccines and surgery, and they looked down on the old school of doctors as hopelessly inadequate.

The ancient Greeks told the story of how Prometheus stole fire from the gods. The gods grew angry and sought a way to punish Prometheus. They sent the irresistibly attractive Pandora with a box to his brother. When Epimetheus opened the box, disease, sickness, suffering, hunger and distress escaped to plague humans. Then Zeus ordered Prometheus to be chained to the most desolate rock in the Caucasus mountains.

Greek tradition told the story of how humans first obtained the medicinal herbs. Chiron, the combination of horse and human, was the teacher of Asclepias the first doctor. Chiron gave humans the four panaceas to cure all of people’s problems and overcome the legacy of Pandora.

In 1898 George Dragendorff published a compilation of 12,700 species of plants known to have had medicinal use. Some record of medical use exists for at least 25,000 of the world’s plants. This means that one out of ten plants in the world has some tradition of use. Nearly every medical problem, including cancer, leukemia and arthri-

tis has been treated with herbs.

The past contains harsh lessons of disease and suffering. When the burial register of St. Michael's Church at Cornhill, England was studied for the years of 1653-63, there were 250 deaths listed. There were 30 cases of tuberculosis, 28 of fevers, 16 of smallpox, 13 of old age, 12 deaths from teething and 8 from rickets. Unknown causes and a variety of disorders accounted for the rest.

George Washington, the father of our country, is a classical study in disease. He suffered at least ten attacks of serious illnesses in which he could have died. He suffered from smallpox at the age of 19, which left pox marks on his face. He had tuberculosis in 1751, flu in 1755, and dysentery in 1757 and 1767. He had severe malaria attacks in 1749, 1757 and 1761. He was treated with cinchona bark for the first time in 1786, but it affected his hearing, and he was partially deaf from then on. He died on December 14, 1799 of either diphtheria or a streptococcus infection of his throat.

My set of books is the result of 24 years of hard work, going through nearly 300 years of medical journals. I visited some 40 libraries ranging from the Library of Congress to the University of Washington in Seattle where I live. Special thanks are due to Philip Lipson for lending me his files on cancer. Arthur Lee Jacobson rendered invaluable help on the botany. Hania Kaczhowslia and April Bingham worked on the illustrations. Many friends asked questions, which resulted in new ideas and information for the chapters.

Many of the disorders in this book have been "conquered" by modern medicine. This victory may be short lived, for new forms of the diseases are now resistant to all antibiotics. This means that we should examine the herbs that were once used to treat them. Many of the plants mentioned are not readily available, but they could be grown and gathered, if enough people were interested in them. These ideas and therapies should stimulate interest in using effective cost-conscious medicine.

One of the bright spots in our nation's health picture is the newly created *Department of Alternative Medicine*. Iowa Senator Tom Harkin suffered for years with allergies, and conventional treatments failed.

When he took generous supplements of bee pollen all of his allergies went away. The new department has a tiny budget in comparison with our ten billion dollar health budget, but it offers hope that good alternative treatments will no longer be forgotten.

A leader of the *National Cancer Institute* called the new office “A terrible waste of money.” If any treatment ever needs to be reformed it is cancer and leukemia. We basically poison people with toxic chemotherapy or radiate them to the point of near death. The sad, expensive and ineffective methods of cancer therapy deserve to be replaced with effective alternatives. When brave medical doctors try new treatments, they are persecuted and put in jail.

I am surprised at the amount of interesting work done on curing cancer. Researchers should be interested in following up on some of these stories. They are simply not following up on important clues, which three centuries of medical literature has left us.

In this book I have used binomial Latin plant names. Readers should be aware that common names are often useless in identifying plants. Just as we need our full names to identify ourselves in large groups, the botanic names of plants are necessary to identify uncommon plants. I borrowed “+” and “-” to replace the clumsy B.C. and A.D. dating from Joseph Needham’s study of Chinese scientific history. Common abbreviations of the text include kilograms- kgs., grams- gms., and milligrams- mgs.

This book makes no attempt to substitute or replace the advice of qualified medical professionals. Diagnosis and treatment cannot be learned without diligent study, and those with health problems should seek professional advice. In sharing this material, I make available many hints for better treatments. May health and understanding become your heritage.

Contents

Introduction	29	Tetanus
SPREADERS OF DISEASE	30	Amebic Dysentery
1 Epidemic	31	Cholera
2 Oh, Rats!	32	Black Plague
3 Lice	33	Leprosy
4 Fighting the Flies	34	Tuberculosis
5 The Domesticated Cockroach	35	Venereal Disease
6 Fighting the Snails	36	Pneumonia
7 Fighting the Mosquitoes	37	Destroyers of Armies
8 Biological Mosquito Control	38	Vitamins and Colds
9 The Worst Insect Diseases	39	Herbs for the Cold
THE FARMER'S ENEMIES	40	Fighting the Flu
10 The Ants	41	Sore Throat
11 Termites	42	Smallpox
12 Pest Control	43	Yellow Fever
13 Protecting the Crops	44	Rabies
ENEMIES OF THE BODY	45	Hepatitis
14 The Terrible Tapeworm	46	Herpes
15 Troubling Parasites		THE STORY OF CANCER
16 Bacteria and Antibiotics	47	Notes on Cancer History
17 The Virulent Virus	48	Strange Cures
18 Fighting the Fungi	49	The Pain of Cancer
GENERAL THERAPIES	50	False Hopes
19 Healing Names	51	Skin Cancer
20 Immune System Herbs	52	The Wart Theory of Cancer
21 Enzyme Therapy	53	Diet in Cancer
22 The Heat Treatment	54	Vitamins and Minerals
23 The First Chemotherapist	55	The K Connection
HERBS IN DISEASE	56	Oils and Enzymes
24 The Story of Quinine	57	Interesting Cancer Remedies
25 Alternative Malaria Cures	58	Remedies of Real Interest
26 The Malarial Mystery	59	The Saga of Leukemia
27 Diphtheria	60	The Summing Up
28 Whooping Cough		BIBLIOGRAPHY

1. EPIDEMIC

“I will say unto the LORD, Thou art my hope, and my stronghold; my God, in Him will I trust. For He shall deliver thee from the snare of the hunter; and from the noisome pestilence. He shall defend thee under His wings, and thou shalt be safe under his feathers; His faithfulness and truth shall be thy shield and buckler. Thou shalt not be afraid for any terror by night; nor for the arrow that flieth by day; for the pestilence that walketh in darkness, nor for the sickness that destroyeth in the noonday. A thousand shall fall beside thee, and ten thousand at thy right hand, but it shall not come nigh to thee.”

Bible *Psalms* 91:2-7

There are three great classical accounts of what happens when a deadly epidemic sweeps through a country. The first is a description of the plague of Athens in the fifth century BC, during the Peloponnesian War. Giovanni Boccaccio wrote a literary account of the black plague striking Florence in the fourteenth century. Daniel Defoe vividly described the plague of London during the rule of King Charles II.

The first playwright who used the dramatic possibility of the plague was Sophocles. In *King Oedipus*, the king unknowingly killed his father Laius and married his own mother. His reign was prosperous, but then a plague appeared. Believing that the plague was caused by the anger of God over the misdeeds of man, Oedipus tried to find and punish the murderer of Laius. But he was the killer of his father, and the reason for the plague.

Giovanni Boccaccio turned the tragic events of the black plague of +1348 in Florence, Italy, into a literary classic in the *Decameron*. During the months of March through July, over 100,000 people in the city died. Boccaccio begins his book with seven women in church. They discuss leaving the deadly city and are joined by three men.

They find an abandoned mansion in the country, whose owners have probably fled ahead of the plague. To occupy their time they tell stories such as: “A Jew called Abraham, goes to Rome, beholds the wickedness there, returns to Paris and becomes a Christian.” “The King of Cyprus, taunted by a lady of Gascony changes from a bad to an energetic monarch.” The book took people’s minds off of the ter-

rible events happening in Europe at the time.

During the great plague of London in 1665, Daniel Defoe was a boy of six. In 1719, he wrote the work that brought him everlasting fame: *The Life and Strange Surprising Adventures of Robinson Crusoe*. Then the epidemic of black plague that struck Marseilles in 1720-1 attracted Defoe's attention. He wrote the story of the London plague in the first person, describing the terror from three existing accounts. The result was: *A Journal of the Plague Year*. It is a grim story of mass death in London, England.

The golden age of Athens produced some of the finest art, the first accounts of history and the first attempts to form a democratic government. The remains of the Parthenon are a symbol of the golden age of ideas and philosophy that came to a near end when Athens was defeated in the Peloponnesian War. Independent Greek city-states continued until Alexander the Great united the country to accomplish his military aims. Then the flame of Greek thought was extinguished, when Rome dominated Greece and most of Europe.

The oracle of Delphi, the Olympic games and the language united Greece. But it was divided into warring city-states and Athens and Sparta were bitter enemies. Athens had a strong navy and Sparta had a powerful army. Pericles, the leader of Athens, didn't wish to face defeat of his army. He ordered the population to take refuge behind the walls of Athens. The crowded people set the stage for the deadly disease.

The major factor that contributed to the decline of the golden age of Athens was the plague which began in the year -430 and struck again during the next two years. Thucydides, who became known as the world's first historian, caught the disease, survived it and gave us a description.

"Many who were in perfect health suddenly and without any apparent reason were seized with violent heat in the head. The eyes became red and inflamed. The throat and tongue were red and swollen and the breath became unnatural and fetid. Sneezing and hoarseness followed these disorders. In a short time a violent cough reached the chest. It descended and moved the stomach to bring vomits of distressing bile, which the physicians gave many names. An ineffec-

tual retching, which produced violent convulsions attacked most of the sufferers. This happened as soon as the previous symptoms abated, or in others a short time later.

The external body was not so hot to the touch, or so pale. It was of a livid color inclining to red and breaking out in pustules and ulcers. The internal fever was intense. The sufferers often couldn't bear to have on even the lightest linen garment, so they insisted on going naked. There was nothing that they longed for more than to throw themselves into cold water. Many of those without anyone to look after them plunged into the cisterns, for they were tormented by unceasing thirst. This wasn't satisfied, even when they drank a great deal of water.

They couldn't sleep, and an intolerable restlessness came over them. When the disease was at its height, they body held out from the sufferings in a marvelous manner. People either died on the seventh or ninth day, not from weakness, but from internal fever. If they survived, then the disease descended into the bowels and produced ulceration. This produced severe diarrhea and caused exhaustion, which finally killed them. The disorder began in the head and went through the whole body. If a person recovered, the disease might leave its mark by attacking the fingers and toes. Some escaped with the loss of these, and other lost their sight. Some people recovered, but their memory was gone. They didn't know who they were, or their friends."

Since this disease is described in great detail, it should be easy to identify. This is not the case, for doctors have tried to identify it with scarlet fever, cholera, smallpox, typhus, typhoid fever and bubonic plague. This disease is unlikely to have been bubonic plague, because that disease was carried by fleas infesting the black rat. The introduction of this rat into Europe was the critical link that enabled plague to wipe out a quarter of the population of Europe.

Typhus is a definite possibility of the mystery plague. Lice spread this disease. It has been argued that the Athenians were very clean people who oiled their hair with olive oil, which repels lice, and bathed in the ocean on a regular basis. But the plague came during a time of war, when country people were crowded inside city walls. Supplies were short and sanitation was neglected.

Some past epidemics of typhus have produced all of the symptoms of the great Athens plague. The German 17th Army was afflicted with an epidemic of typhus in 1943-4. The men developed burning fevers and went into maniacal delirium. Sufferers during typhus epidemics often have a desire to take cold baths or dive into nearby rivers, which happened in Athens.

When an epidemic disease strikes a population that has no immunity, the initial death rate is high and the symptoms are severe. Measles struck the Fiji Islands in 1875 and killed about a quarter of the population. People developed dysentery and pneumonia. They had a great desire to crawl to the nearest streams and immerse themselves in the water. There was an offensive odor about the disease, and people developed gangrene and eye problems.

The Athens epidemic could have been the common flu complicated with a toxin-producing strain of *Staphylococcus*. Epidemics of the flu appear at regular intervals and the virus mutates, so it becomes a new disease each time. The great flu epidemic of 1918 produced unusually severe symptoms and caused the death of about 5% of those who caught it. This is still far less than the death of a third of the population of Athens.

I believe that none of the experts have correctly identified the Athens plague. There is an old principle: "What goes around, comes around." In August and September of 1928 Athens was struck by an epidemic of dengue fever spread by *Aedes aegypti* mosquitoes. More than 200,000 people got the disease and business was paralyzed. Shops and factories had to close for lack of workers. The main bank of Athens had 180 persons working for it; now they were reduced to 20 people. There was a high death rate, and the disease produced the same symptoms that Thucydides recorded.

A doctor writing about the 1928 epidemic remarked: "The mere fact that an immense number of human beings becomes, almost simultaneously immobilized suffices to throw collective life into disorder, if not to paralyze it in a very disquieting manner, from the resulting stoppage of work and general suffering. This epidemic caused a fever for about a week. After that, a frontal headache remained, and people often cried out in pain. Boils and skin problems were associat-

ed with it. Tongues turned white and there was intense thirst. Nausea, vomiting and severe arthritis were associated with it. Many patients suffered from chronic fatigue, and it often took years to recover.”

The name “dengue” probably comes from the East African word “dinga” meaning “blow.” The pains in the knees and joints caused it to be known as breakbone fever. A marked weakness follows the disease. It is caused by an RNA virus.

Dengue fever is not uncommon, for it comes in waves spread by mosquitoes. It acts like the flu with a fever ranging from 103° to 106° F. There is headache, backache, pain in the muscles and joints, with flushing of the face. The eyes hurt to move. During the second to the sixth day there is nausea and vomiting. Dengue causes a generalized rash with scaling of the skin. Gastrointestinal bleeding occurs particularly in adults.

In 1839 Dr. Henry Dickson described an epidemic at Charleston, South Carolina. “Dengue usually made its attack with pain, stiffness and swelling of some of the smaller joints, often the muscles of a limb, with rigidity of the neck, aching of the back and loins. These pains were followed, after an uncertain through generally brief period by headache, suffusion of the eyes, abrupt full frequent pulse, with hot pungent dry skin. Restlessness, thirst and other tokens of febrile excitedness followed.” The epidemic was believed to have originated from an African slave ship.

In South Africa borza *Tetradenia riparia* = *Moschosma riparia* grows wild on the Umlas River. Many gardeners grow it for its beauty and sweet smell. It is a native cure for malaria and dengue in cattle. In 1905 Beatrice Compton visited a home where the inhabitants were sick with dengue. There were many mosquitoes, and soon she began to feel the symptoms of dengue. She went to her garden and picked a branch of borza and began to chew a large leaf. When she woke up the next morning she was well. Simple remedies such as this could have saved the citizens of Athens much suffering.

We have been so successful at conquering epidemic diseases by vaccination, that new diseases seem improbable. But there are many mystery diseases that could spread into the general population and cause suffering and death. Africa is a vast reservoir of mystery diseases

and villages have been decimated from unknown diseases. Nigerian rodents carry the deadly virus of Lassa fever. It is so dangerous, that only a few people have ever recovered from it. Work is being done on it at several of the most carefully controlled laboratories in the world.

Even nontropical North America has mystery illnesses. We cannot forget Legionnaire's disease, caused by an unusual bacteria that invaded water-cooled air conditioning systems. Doctors worked long hours trying to find the killer of a number of children in La Crosse, Wisconsin. It turned out the mosquitoes in the subdivisions near forest lands were carrying a deadly virus.

A reading of virology journals discloses such names as Omsk hemorrhagic fever, Kyasanur forest disease, Argentine hemorrhagic fever, Green monkey disease and hundreds more. They might be obscure, but they could spread into the general population. In 1952 Tanganyika suffered an epidemic of Chikungunya virus. In 1959 Uganda had an epidemic of O'nyong-nyong disease, which literally means "ouch ouch."

The population of Athens had no remedies, and even in Hippocrates' medical writings a century later, there were few remedies. There are a few simple things that decrease the severity of viral diseases that we know about. Baking soda decreases the severity of many viral and bacterial diseases. Magnesium chloride has been found in French experiments to be fairly effective in many viral diseases.

The presence of AIDS has stirred a new awareness in the medical community that the epidemic at Athens is not just a distant part of history. It is also possible that when rockets reach out to distance planets, new forms of unknown disease agents may find fertile fields in the nutrient-rich pastures of earth. It is interesting to speculate that the history of Athens might have turned out differently had they an effective cure. These thoughts may stir a new awareness of the forgotten remedies of the natural world.

2. OH, RATS!

To blow the pipe his lips he wrinkled,
And green and blue his sharp eyes twinkled . . .
And ere three notes the shrill pipe uttered . . .
Out of the houses the rats came tumbling.
Great rats, small rats, lean rats, brawny rats,
Brown rats, black rats, gray rats, tawny rats . . .
And step for step they followed dancing,
Untill they came to the river Weser.

from Robert Browning's poem *The Pied Piper of Hamelin*

An old town hall inscription in Lwo Germany reads: "In the year of our Lord +1284, there was led out of Hamelin by a piper one hundred and thirty children native to the town, all of whom vanished into the Koppenberg." The full story appears in the book of German legends, known as *Sagen*, gathered by Jacob and Wilhelm Grimm.

In +1284 an odd character appeared in Hamelin with a multicolored coat, which gave him the nickname of "Pied Piper." He offered to rid the town of rats and mice for a price. He played his pipes and thousands of rats followed him into the Weser River, where they drowned. It should be added that certain sounds are believed to attract rats. Welsh miners had a particular whistle, when they wanted to draw them. They felt safe when rats were in the mines, and when the rats left, they worried about cave-ins. Perhaps the piper knew the secrets of rat-attracting sounds.

The citizens were glad to be free of the rats, but they refused to pay the agreed-on price. On June 26th, the piper returned to the town wearing an extraordinary red hat. He played his pipes and all of the town's children followed him into the hills. One hundred and thirty children vanished, the only ones remaining were a deaf child and a blind child, who weren't affected by the piper.

The main street of Hamelin was known as "No-Noise" street thereafter. On the Koppenberg hill where the children disappeared, two stone crosses were erected. There is speculation that the story is a memory of the Children's Crusade led by ten year old Nicholas of

Cologne, in which 20,000 children tried to win back the Holy Land from the Turks. All of the children were killed or became captives. The story does have the names of real people and dates, and it remains a mystery.

A form of English might have become the national language of Europe if it were not for the Black Death of +1348. England had just defeated the French at Crecy and conquered Calais after a siege of eleven months. The plague decimated their armies and compelled them to sign a truce. The carriers of the plague were rats, and it wasn't the first time they had changed history.

Rats are still one of the great health problems. They can carry bubonic plague, typhus, pneumonic plague, parasitic mange and tapeworms. They are so adept at burrowing and finding food, that it is difficult to control them. Since they are creatures of the night, we rarely realize their presence.

Rats can be counted by putting weighed amounts of wheat at many points near their burrows, until they become dependent upon the free food. Since the average wild rat eats about 24 grams of food a day, this provides a good measure of the number of rats. Using this method, it was estimated that one English village had 364 people and 330 rats. Another English village had 266 people and 180 rats.

The brown or Norway rat is the largest and most common rat. It will eat fish and meat in addition to grain. When it was introduced into Europe at the time of the black plague, it took over from the smaller black rat. The black rat eats mostly vegetables, and because its teeth are constantly growing, it is always chewing on something. By chewing, it wears down the teeth, and it will even eat through lead pipes.

When rats nibble food, they leave a chemical marker that tells other rats that the food is safe. An Australian scientist found that the markers are carbon disulfide and carbonyl sulfide. He is now experimenting with better rat baits.

Disease is natural to the rat population, but it requires the rat flea to spread it to humans. The black plague was a flea transmitted disease, and as the rats spread, the disease followed. Often the first sign of the epidemic was the finding of dead rats in the streets, for some of

them died in the plague, too.

Rats are found in great numbers whenever there is grain. In Peru, rats love the tuberous roots of “ratonaria,” and whenever *Hierochloe utriculata* = *Torresia utriculata* is found, there are many rat tunnels. In Southeast Asia, it is known that burning the resin of *Styrax benzoin* attracts rats and mice.

In the jungles of Asia the flowering of the bamboo leads to great numbers of rats, followed by famine and epidemics in the following years. In Southeast Asia the bamboo flowers about every fifty years and then dies. The decaying bamboo builds a huge rat population, and this is often followed by plague in nearby human communities. Scientists have yet to find out why the entire bamboo population of an area flowers and dies together. In Japan the bamboo flowered in 1846 and then again in 1969.

Japanese silkworm breeders were troubled with rats, and they hung the portrait of *Nitta no Neko* in rooms to discourage the rats. This was a famous cat painted by the artist Nitta. Carvings of cats by the sculpturer Hidai Jingora were believed to drive away the rats.

Skunks and ferrets eat rats, and their musky odor drives rats from buildings. Rats can also be repelled by putting catnip, peppermint oil or hound's tongue *Cynoglossum officinale* into their runways. Italian meat cutters used “butcher's broom” *Ruscus aculeatus* to put over food to repel rats. The Italian name of the plant meant “prick rat.”

The earliest rat killer that found a modern use was red squill *Drimia maritima* = *Scilla maritima*. The first mention of the herb for this purpose is by August-Francois Chomel in +1718. Since 1895 it has been a popular alternative to white arsenic as a rat killer. It is a member of the lily family growing along the shores of the Eastern Mediterranean. It has the great advantage of being relatively nontoxic to humans and domestic animals. If cats or dogs eat the rat poison, they quickly vomit it up.

The bulb of red squill has to be dried and ground finely to be poisonous. It takes about a half gram to kill a male rat and about a quarter gram to kill a female rat. The toxicity is greater for the brown rat than the black rat. The old rat catchers made a paste from horsemeat, fat and anise seeds. Mixing two parts of cheese to one part squill

made another formula. Since rats are usually bait-shy, the unpoisoned material was left until many rats became used to eating it. When large numbers of rats were eating the free food, it was mixed with squill to kill them.

Malaysian farmers take the roots and stems of *Dianella caerulea* and make a tea of it. Then they add rice and boil it until the rice is cooked. It is scattered on the fields at night and often hundreds of dead rats are found the next day.

Chinese shops sold bastard anise, *Illicium anisatum* = *I. religiosum* as a rat poison under the name of "shu-mang-tsau." The seeds contain a toxic alkaloid known as sikimitoxin. Occasionally this seed was sold as a substitute for star anise *Illicium verum* and people got poisoned.

South Africa has two plants known as "rat bane." These are *Dichapetalum toxicarium* and *D. cymosum*. In areas of the Transvaal where these plants grow, cattle must be fenced to keep them away from the toxic plants. The active poison is fluoroacetic acid that blocks the action of enzymes. After eating the plant toxin, the rat spreads its legs and becomes rigid. The poison is very dangerous to dogs and domestic animals, so it is not generally used to kill pests.

In Sierra Leone, the Magbevi nut *Dichapetalum toxicarium* = *Chailletia toxicaria* is used as a rat poison. The kernels of the nuts are mixed with pea meal. The lethal dose for rats is about 36 mgs. per 100 grams of rat weight. This dose is about the same if given in one feeding or a series of smaller meals.

In Nigeria and parts of West Africa *Thevetia peruviana* is a common hedge plant. The kernels have a digitalis-like action. They are ground and mixed with fruit and sugar cane juice to kill rats. Laboratory studies show that it is deadly at a ratio of one gram of the kernels to 500 grams of rats.

There are two plants that are used as a living hedge to kill or repel rats and mice. The rat-trap tree of South America is *Gliricidia sepiu*. The name *Gliricidia* comes from the Latin words "glis-caedro" meaning "mouse-kill." The plant is said to kill rats gnawing at its roots. In Japan, *Lycoris radiata* is planted on rice field dikes to keep mice from tunneling and ruining the dikes.

The Mayas to Central America used the bulbs of *Zamia furfuracea*

to poison rats. Heat destroys the toxin, and people used the bulbs for food after cooking. In Central America the seeds of *Rourea glabra* and avocado seeds are powdered and mixed with cheese to kill mice and rats. The Brazilian plant *Psychotria marcgravii* = *Palicourea marcgravii* is called “hervade de sato” [herb of the rat]. Rats are attracted to it, and die after eating it. Another deadly rat killer used in the Amazon is the fruit of *Psychotria racemosa*.

A number of plants are used throughout the world to kill rats. The common name “rat poison plant” refers to *Hamelia patens* = *H. erecta*. *Drimys cowanii* is used in Madagascar and *Tylophora fasciculata* is used in India. In Sumatra the sap of *Parartocarpus triandrus* is mixed with boiled rice to poison rats. In Russia *Merendera robusta* was used to kill rats. In Italy the toxic sea anemone *Sagartia elegans* was used to kill rats. In Nigeria the fruits of *Quassia kerstingii* = *Pierreodendron kerstingii* are mixed with palm oil and boiled yams, and set out for the rats.

The best sanitation and construction have not kept American cities free from rats. Poisons have kept them from becoming a health hazard, but they have shown great abilities to become resistant to the poisons. Perhaps some of old herbs will be needed in the future.

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