

The Poison Bugaboo

Samuel Hopkins Adams

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[Introduction]

ROMANCE revels in the peril of the unknown. Lapped about with the armor-plate of civilization, the modern citizen muses relishingly, like a child beguiling himself with ogre tales, upon the terrors which lie just beyond his ken. To his mind,

A stone's throw out on either hand,
And all the world is wild and strange.

Avid for sensation, he peoples the remoteness of forest and mountain with malign and destructive creatures, whence has grown up an extensive and astonishing literature of snake and insect poison lore.

"Deadly" is the master word of the cult. The rattlesnake is "deadly." The copperhead and moccasin are "deadly." So is the wholly mythical puff adder. In hardly less degree is the tarantula "deadly," while varying lethal capacities are ascribed to the centipede, the scorpion, the kissing-bug, and sundry other forms of insect life. The whole matter is based upon the slenderest foundations. I don't mean, by this, that these ill-famed species are wholly innocuous. It would be highly inadvisable to snatch a kiss from a copperhead or to stroke a tarantula's fur the wrong way. But one could do it and live to boast of the achievement. Pseudoscience to the contrary notwithstanding, there is no living thing within the boundaries of the United States of America whose bite or sting is sure death or (with one possible exception) even probable death.

There are five varieties of venomous serpents in this country: three of them Crotalids, and two belonging to the Elaps family. The Elaps are rather rare. The Crotalids (rattlesnake, moccasin, and copperhead) are common, and of the widest geographical distribution. Yet, on the basis of actual evidence, the amazing fact stands out that only about eighty persons, so far as is ascertainable, have ever died from snake bite in the United States. Nowhere in the Civil War records does a death from this cause appear, though hundreds of thousands of men were living "on the country," and at a time when the serpent clan was much more numerous than now.

Estimates vary as to the proportion of deaths to bites. Prentiss Willson believes that something over ten per cent. of all persons bitten by venomous snakes in the United States die. As to how many of these succumb, not to the venom, but to the misdirected efforts of misguided friends at treatment — an extremely important differentiation — he lacks the data upon which to base a reckoning. S. Weir Mitchell's figures indicate 8.7 per cent. mortality for rattlesnake bite. This would make the venom about as dangerous as the toxin of typhoid fever, which is not generally regarded as a necessarily "deadly" disease. Other writers go as high as fifteen per cent. for the rattlesnake and as low as one per cent. for the copperhead.

All general estimates seem to me to leave one basic element out of consideration — the unnoted, non-fatal snake bites. That a bite resulting in death will eventually get itself reported is reasonably certain. On the other hand, I am satisfied, from talking with plantation owners in the South, with ranchmen in the West, and with woodsmen and hunters all over the country, that, in the remoter regions, many instances of poisoning by copperheads and the smaller rattlesnakes never attain the dignity of being listed, so insignificant are they in their effects. Were all these to be recorded, I believe that the mortality ratio would fall notably.

Although I have been interested in the subject for many years, I have never met a man

-519- who has seen a fatal case of snake bite. More than this, my friend Mr. Stewart Edward White, a noted hunter and explorer of untrodden ground in regions infested by reptiles, has known of but one case terminating in death which he believes to be authentic. Dr. J. A. Mitchell, of Victoria, Texas, one of the most experienced of field observers, has never met with an instance of fatality from this cause. Dr. Mitchell believes that horses always, and dogs almost always, recover from rattlesnake bite. He confirms, from observation, the mysterious fact that hogs exhibit absolute immunity from the venom.

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WHISKY VS. SNAKEBITE

Be it remembered always that death following snake bite is not necessarily the same thing as death from snake bite. Error in treatment plays no small part in vitiating the statistics. For "error" read "whisky." Whoever is primarily responsible for the hoary superstition that liquor in huge doses is useful in snake poisoning has many a life to answer for. Apart from any adventitious aid whatsoever, whether from a snake or any other source, a whole bottle of raw whisky forced down the throat of a man unaccustomed to alcohol is pretty likely to kill him, and is absolutely certain to cause grave poisoning. Add to this that it is given, often, in such a manner that the reaction from it comes contemporaneously with the heart collapse caused by the venom, and a telling commentary upon the method is suggested. It is a question whether alcohol should ever be given in such cases without the advice of a physician. Certain it is that it should not be poured into the victim in quantities limited only by the flask—contents of the bystanders.

Several years ago I saw two interestingly contrasted cases of copperhead bite. The first patient was a powerful, full-blooded, temperate, Irish day-laborer who, while road-mending, was bitten on the back of the hand between two fingers. His fellows hustled him off to a room over a neighboring saloon, where they proceeded to administer the classic treatment. Before the doctor arrived they had introduced a quart and a half of whisky into a stomach unused to anything stronger than beer in small quantities. Six hours later, when I saw the man through the wreckage of chairs, tables, and bedding, four battered friends were trying to hold him down. They thought he was having convulsions from the snake venom. He wasn't. He was having delirium tremens from the whisky. His arm and shoulder were purple and swollen. Later he collapsed

"Will he die?" I asked the doctor.

"He won't die of the bite, but I think he will of the whisky," replied the disgusted practitioner.

But he didn't. His splendid physique pulled him through. It was long, however, before he wholly recovered from the effects of the two poisons.

This was in a Hudson River town. Only a few miles away a negro boy, shortly after, was struck by a copperhead on the bare leg. The wound was a deep, double-fanged puncture. While the boy's father rushed for whisky, his mother ran for the doctor. The doctor got there first. He opened up the wound and rubbed in permanganate of potash to oxidize the venom and destroy its toxic properties. When I talked with the boy, two days later, he was hobbling about on a crutch, and the swelling had almost subsided. Setting the boy's lesser age and resistant power against the fact of the laborer's being bitten in a worse place (for crotaline venom is much more effective in an upper limb or extremity than in a lower), we have a fairly illustrative instance of the relative merits of alcoholic and non-alcoholic measures.

WHEN RATTLESNAKES KILL

Thirteen cases of death following rattlesnake and copperhead bite in which satisfactory clinical data were obtainable, are given by Prentiss Willson. Of the victims, five were young children, one was a fourteen-year-old boy, one a chronic drunkard, and one a leper who submitted to the stroke of a captive rattlesnake in the mad hope that it would cure his affliction. It did — in twenty-four hours. Of the remaining five, three were dosed with alcohol in large quantities. In several of the cases, notably those of the children, there seemed to be at least an even chance of recovery, when the ligatures binding the affected limb were loosened to relieve the pain, with quickly fatal results. Two of the fatalities were attributed, not immediately to the venom, but to the secondary blood-poisoning, this being the case with the only copperhead bite in the list.

Death resulting typically from crotaline poisoning occurred in two instances, one the fourteen-year-old boy, who was struck by a large rattlesnake and died in six hours, despite skilled and prompt medical attendance; the other, a Dr. Post, into whose veins, it would appear, the poison entered immediately, since a jet of blood spurted from the wound inflicted by the captive rattlesnake. The man passed from great agony into coma, from which he never rallied, death ensuing in five hours after the bite. There is nothing in these data to indicate that a full-grown man in normal health, and with proper treatment, will succumb to crotaline poisoning unless the venom enters a vein, direct.

In the matter of the comparative potency of snake poisons, there are apparent contradictions. In the order of recorded fatalities, the rattlesnake ranks easily first, with the water moccasin a rather distant second, and the copperhead a very poor third. Yet experiments upon animals indicate that moccasin venom is five times as powerful as rattlesnake, though only three times as powerful as copperhead. Taking the cobra as the basis of

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estimate, it requires only twice as much moccasin venom as it does cobra poison to kill a guinea pig, whereas it requires six times as much copperhead and ten times as much rattlesnake virus. Why, then, is the rattler pre-eminent over its more virulent cousins? Probably for two reasons — the greater amount of venom secreted, and the superior power with which the rattler drives its fangs home.

NO VIPERS IN THIS COUNTRY

Fully as much terror attaches, in the country districts, to the puff adder or sand viper as to the rattlesnake or copperhead. This is a suggestive bit of superstition, since there's no such thing as an adder or viper on the Western hemisphere and never has been one, unless it came, carefully pickled, in a jar. What passes for the supposedly deadly reptile is the common hog-nosed or bull snake. It is about as dangerous as an infuriated rabbit. But it puts up one of the best "bluffs" known to natural history. When caught at its favorite occupation of basking in the open, without convenient avenue of escape, it flattens its head, and strikes right and left, blowing and hissing with an aspect much more terrifying than that of the truly venomous species. Then, when the objects of its fury have taken to trees or adjacent fences, it glides quietly away into the grass and effaces itself. Any one who has the nerve to look it between the eyes may uncover its pretense. For by this token may be known the real Crotalids from the mock: a small but distinct pit between eye and nostril. Lacking this mark, no ventral crawler in the land of the free need cause a flutter in the most timid breast, with one notable exception.

BEWARE THE ELAPS

Shun, as you would a rabid dog, a pretty little red-and-black banded serpent about as thick as your thumb. If any living creature whose habitat is the United States deserves the epithet "deadly," it is the Elaps. Two species are known; the harlequin snake, which ranges throughout the Gulf states to Texas and up the Mississippi River to Ohio, and the Sonoran coral snake, found in the Southwest only. By a strange perversion of facts, while the harmless hog-nosed snake enjoys a repute of terror, the Elaps, most dangerous of all American reptiles, is commonly regarded as harmless. Partly this is due to its slight and graceful prettiness, partly to its innocent-appearing head, which shows no flattening (the popularly understood mark of the venomous species), and partly to its lethargic and peaceful disposition. Experimenters wishing to secure the venom of the Elaps often find it difficult to rouse the snake to striking wrath.

Very few instances are known of Elaps bite, but those few unquestionably set this ornamental creature in a class by itself, among American Ophidia, for "results." Out of eight well-authenticated cases of Elaps bite, six of the victims died. This is believed to indicate a falsely large percentage, however, the scientific estimate of mortality being somewhere between twenty-five and fifty per cent.

A government scientist tells me of a curious result from coral-snake bite which came under his notice. The victim, who was handling the reptile preparatory to photographing it, apparently overstepped the bounds of its habitual forbearance, for it fastened upon his finger with such determination that it had to be pried off. The man soon became unconscious, but rallied, and, after three days of dubious condition, recovered. Every year since, at about the anniversary of the bite, an ulcer forms upon the finger and the nail sloughs off. I have heard of similar recurrent effects from crotaline poisoning, but none scientifically attested, as is this phenomenon.

Before passing from the subject of snakes, let me make one point clear. While the venomous snakes of this country are by no means "deadly" in the ordinary sense of the term, their bite is always serious, both in its immediate effects and in the possibility of after effects. The bitten person should get to a physician at once. The immediate treatment is prompt incision and sucking of the wound. Permanganate of potash for rubbing into the bitten place should always be carried by persons traveling in a snake-infested country. If the bite is on a limb, a light ligature will check the spread of the venom. Use whisky sparingly, if at all, and then only in case of complete collapse.

The local treatments are most effective while the venom is still around the site of the bite, and will reduce the injurious effects considerably. But after half an hour or so the absorption of the venom becomes more general and the local treatments ineffective. When the venom once enters into general circulation no chemicals or medication can neutralize its effects, except a specific antivenin, such as has been prepared by Dr. Noguchi at the Rockefeller Institute in New York. Antivenin is the only antidote that can counteract the action of venom anywhere in the body. It finds the venom wherever it is present and neutralizes it there, without producing any ill effects on the system.

GILA MONSTER NOT SO MONSTROUS

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Dissension and discussion have raged for years about the hideous head of the Gila monster. This great lizard of the Southwest has been pronounced absolutely deadly by one set of partisans, and absolutely harmless by another. Somewhere between lies the truth. If any human being has actually been bitten by a heloderma, the event has either escaped notice or has been so hedged about with obstructive legend as to have forfeited scientific credence. But the saurian itself has been studied and dissected, and its venom has been analyzed. The venom is related to snake poison, but is neither crotaline nor elapine. From animal experiments it is thought that it might be fatal to man under unfavorable conditions. There are no fangs proper. The poison gland is in the lower jaw, instead of in the upper, as in snakes, and its product is projected through small ducts which open in the gums outside the teeth. The Gila monster has the grip of a bulldog. Torture will not loosen its hold, once fastened on. It is through this intimate contact that the venom works into the wounds.

Fortunately, the lizard is slow to anger, and prefers flight to battle, so it is likely to be long before science has an opportunity of studying the effect of its envenomed jaw-clamp upon man. There are a few vaguely rumored reports of prospectors having perished, in the desert, of Gila monster poison, but these are so confused with symptoms suspiciously resembling alcoholic poisoning as to lead Dr. R. W. Shufeldt, an authority upon the Reptilia, to remark that "a quart of raw whisky, practically given at one dose, may prove more fatal than the bite of ten helodermas."

Almost any kind of an insect bite or sting may prove fatal. So may a pin scratch, if the blood of the subject be in bad enough condition. There is a well-substantiated case of a trained nurse who died from blood poisoning following a mosquito bite. Ant bite has resulted fatally, as has a single sting from the common wasp. No one, however, considers these everyday insects as "deadly." But substitute "scorpion" for "ant," and "centipede" for "wasp," and shrieks of dismay rise from the general throat. Yet perhaps there is no other variety of harmful creature whose reputation rests upon so meager a foundation as that of these two.

True, an El Paso report claims that a man stung by a whip scorpion died in twelve hours; but the details are so vague as to be in a high degree unconvincing. Dr. Eugene Murray-Aaron, a witness of unimpeachable scientific competency, describes the sting, after several personal encounters with the vigorous tropical species, as no worse than that of a large hornet. Dr. L. B. Rowland, of Florida, says: "My wife has been stung several times [by the common scorpion]. It is like a wasp sting, only."

THE SCORPION'S STING

The Mexican scorpion enjoys an evil repute, which, from personal observation, I consider greatly exaggerated. Stewart Edward White was so obliging as to afford me excellent opportunity of judging, in the course of a recent hunting trip which we took together in a hot and remote Mexican desert. Mr. White, in the process of disrobing, sat down upon a brown scorpion, an inch and a half long. The scorpion punctured Mr. White twice. I noted his symptoms. They were chiefly surprise and indignation. Within half an hour he was asleep, and on the following day he was riding a mule. The scorpion, however, died.

With respect to the centipede, satisfactory data are difficult to obtain. Some scientists whose observations are worthy of note state that the legs of this curious creature secrete a poison, and that their trail over human flesh is marked by a sort of rash, sometimes followed by fever. As showing that this is not an invariable phenomenon, I may set the circumstantial account given me by Captain Robert Kemp Wright, who, at his place at Pitch Lake, Trinidad, saw a good-sized centipede crawl across the forehead of his sleeping son. Not daring to make a move, as the centipede is supposed to strike very swiftly, Captain Wright was compelled to stand still while it slowly made its way to the pillow and thence to the floor, where it was killed. The boy, who had neither waked nor moved, showed absolutely no trace of the reptile's course.

THE DEADLY TARANTULA — IN PRINT

The only direct evidence which has come to me regarding the bite of the hundred-legged crawler was from an English naturalist whom I met in Venezuela. He was bitten on the ankle by a centipede nearly a foot long. So severe was the laceration that his sock was clotted with blood before he could get it off. The two punctures were marked. Almost immediately the ankle began to swell. The pain he describes as being equal to a bad toothache. It kept him awake all that night. He had some fever, which, however, he attributes rather to the loss of sleep than to any specific action of the poison, as there were no other general symptoms. In the morning the pain had abated a good deal, and he believes that he could have gone about his pursuits had he been able to get his sock and shoe on. He noted some discoloration about the wound. Late in the afternoon he was hobbling about. A week in a

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carpet slipper was the extent of disability which he suffered. On these evidences it would seem just, for the present, to set down the scorpion and the centipede as painful, rather than dangerous, assailants.

Diseased imagination could invent no creature more horrific of appearance than the tarantula. Its bristling and hostile aspect, the swift ferocity of its rush, its great size, and its enthusiastic preference for combat as against flight, are sufficient to account for the fear and respect in which it is generally held. But, though several species of the huge spider are native to the United States, and others frequently drop out of banana bunches from South or Central America, to the discomfiture of the unsuspecting grocer, no authentic instance of death from tarantula poison in this country is obtainable. St. Louis papers please copy, particularly that one which, several years ago, announced in appropriately black headlines: IN TWO WEEKS Three Men Have Died From Bites of Tarantulas, proceeding to explain that the victims were banana handlers in the wholesale fruit district. No names were supplied — a common phenomenon in this class of obituary notice. Search in the coroner's records failed to bring to light any case of the sort, and an exhaustive inquiry in the fruit district was equally unproductive. The report was a pure fake.

Apparently of the same nature is the "news story" of a Californian who, presumably mistaking a tarantula for a fragrant floweret, was bitten on the nose and "died in great agony." That, of course, is the proper way to die under such circumstances. They all do it — in print.

Now let us see about the "agony." Herbert H. Smith, the naturalist and collector, saw a man bitten on the bare foot by a tarantula (*Mygale*) so hard as to draw blood. There was very little swelling, and the man paid no heed to the occurrence, but went on with his work.

I have talked with a Southern Pacific Railroad fireman who was jabbed on the wrist by a large tarantula. Some years before, he had been stung on the cheek by a "bald" hornet. He wasn't inclined to make any choice between the two except that the tarantula (not the wound) "looked a d — — sight more scary." He didn't let the bite interfere with his job, even for the day.

On the other hand, Dr. Murray-Aaron records serious symptoms following two bites upon the hand by a large female trapdoor tarantula; pain comparable to that of the worst earache, involuntary twitching of arms, legs, lips, and tongue, great swelling and discoloration of the hand and forearm, and considerable suffering for four days, with occasionally recurrent pains for a month. This, however, was in Haiti. And even there, he believes, death never follows tarantula bite unless the subject is in a depleted state of resistance from blood-disease or other cause. Under the heading "Fatal Spider Bite" there is a considerable and interesting newspaper bibliography. The details do not analyze well. Often the name of the supposed victim doesn't appear; and where names and specifications are given, the evidence is hardly sufficient, as a rule, to convict the insect of any crime more serious than mayhem. For example, a young woman in Brooklyn awoke one morning to find a swollen spot on her body. On the bed was (according to allegation) a spider. Some ten days later she died. For a long period she had been in ill health. Yet the death was credited to the spider, though specific symptoms of venomous poisoning were lacking.

The instance of a young woman in an Eastern state is significant. Thrusting her foot into an old slipper, she felt a sharp jab upon the point of her index digit. Upon hasty removal of the footgear, she saw, or supposed she saw, a large and ferocious spider dart forth. This, to her mind, was evidence both conclusive and damning. Seizing upon the carving knife, she promptly cut off her perfectly good toe, bound up the wound, and sent for the doctor, thereby blossoming out in next day's print as a "Heroine who had Saved her own life by her Marvelous Presence of Mind." The thoughtful will wonder, however, whether the lady wouldn't have got at the real root of the matter by cutting off her head instead of her toe.

SPIDER HYSTERIA

Imagination and terror undoubtedly account for certain general symptoms in this class of injury. Colonel Nicholas Pike, a competent observer, records a case of a man slapping his hand down upon a window sill and feeling a lively stab in the palm. At the same moment a small spider ran across the back of his fingers and was captured. There was a distinct puncture in the hand. Here, then, was a definite case, where the wound and the insect were both in evidence. But examination of the arachnid's fangs satisfied Colonel Pike that they were far too small and weak to penetrate the tough skin where the wound was. Meantime the victim exhibited the classic symptoms of venomous poisoning: numbness, nausea, chills, and threatened collapse. A physician, being summoned, examined both the victim and the accused, and took Colonel Pike's view that the spider was innocent.

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The man was wrathful, with the indignation of terror. He said he guessed he knew whether he was bitten or not, and that the physician's business was to eschew idle speculations and go ahead and save his life if it wasn't already too late. Thereupon the doctor opened up the wound and extracted a section of a fine needle. The other half was found sticking in the window sill where a careless seamstress had fixed it. The spider had been a fortuitous arrival. The man made one of the quickest recoveries recorded.

THE "RED-SPOT" — DANGEROUS

Strangely enough, the one really dangerous spider on the American continent is small, obscure, and practically unknown to popular or journalistic hysteria. *Latrodectus mactans* is its scientific name. It is about the size of a large pea, black with a red spot on the back — a useful danger signal — and spins a small web in outhouses or around wood-piles. So far as is known, its poison is the most virulent and powerful, drop for drop, secreted by any living creature. Cobra virus, in the minute quantity which the *Latrodectus's* glands contain, would probably have no appreciable effect upon man; whereas the tiny spider's venom, in the volume injected by the cobra's stroke, would slay a herd of elephants. Were this little-known crawler as large as the common black hunting spider of our gardens and lawns, its bite would be almost invariably fatal. Happily, the "red-spot's" fangs, being small and weak, can with difficulty penetrate the skin, and are able to inject venom in dangerous quantity only when the bite is inflicted upon some tender-skinned portion of the body. Nevertheless, fatalities consequent upon the bite of this insect are sufficiently well attested to take rank as established scientific facts.

One of the most detailed comes from an intelligent farmer of Greensboro, North Carolina. A workman in his employ, while hauling wood, brushed at something crawling upon his neck and felt a sharp, stinging sensation. He found a small, black spider with a red spot. This was at 8.30 A.M. Presently, ten small white pimples appeared about the bitten spot, though no puncture was visible and there was no swelling. The pain soon passed, but returned in three hours and became general, finally settling in the abdomen and producing violent cramps. At one o'clock the man had a spasmodic attack. Two hours later he had so far recovered as to be able to go back to work, for an hour. Then the spasms took him again; he sank into coma, and died between ten and eleven o'clock that evening, about fourteen hours after the bite. At no time were there local symptoms or swelling, other than the slight eruption, but the neck, left arm, and breast are reported as having assumed a stonelike hardness.

The same farmer had seen, three years previous, a negro who had been bitten upon the ankle by a "red-spot" and who suffered from diminishingly severe spasmodic attacks for three weeks. The white pimples appeared in this case also. The negro recovered, but the eruption reappeared for years thereafter whenever he was overheated.

Recoveries from *Latrodectus* bite are much more common, in the records, than deaths. Dr. Corson, of Savannah, Georgia, reports six cases, characterized by agonizing pains, spasmodic contractions like those of tetanus, and grave general symptoms. All recovered. From Anaheim, California, a fatal case is reported by Dr. Bickford, death occurring twenty hours after the bite. William A. Ball, of San Bernardino, California, gives a vivid account of his sensations after being bitten on the groin by a red-spotted spider, the data being attested by his physician. Shortly after being bitten, he began to suffer great agony, with convulsive contractions of the muscles.

"The pains in my hip-joints, chest, and thighs grew rapidly more violent, until it seemed that the bones in these parts of my body were being crushed to fragments." He was seriously ill for ten days.

WORSE THAN THE "DEADLY" COPPERHEAD

It may be that only under certain uncomprehended conditions is the venom of the *Latrodectus* effective. Inoculation of guinea pigs with the poison has been without any resultant symptoms. Scientific experimenters have suffered themselves to be bitten and have experienced no ill effects. The foreign cousins of the American species, however, have as evil a repute as the "mactans." The "katipo," found in sedges on the beach of New Zealand, is dreaded by the Maoris, who traditionally refuse to sleep nearer than half a stone's throw from the water, that being the extent of range of the spider. The *Latrodecti* of Corsica, Algeria, and France are infamous in the lore of the country folk, which fact must be regarded as strongly evidential, when their insignificant appearance is taken into account.

Only in America is there no popular fear of this really formidable little creature. Yet it is found in almost every part of the United States, though by no means one of the commoner spiders. In the past five years I have seen two specimens at my country place in central New York, and have heard of a dozen others. If people understood generally that this rather ornamental insect is both more perilous to life and health, and rather more

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prone to attack human beings, than the superstitiously dreaded "deadly" copperhead, there would probably be a heavy mortality in the *Latrodectus* family at the hands of energetic house-cleaners.

THE RISE OF THE KISSING-BUG

Years ago the United States Bureau of Entomology received from an exasperated clergyman in Georgia a dead insect, enclosed in this note:

"Prof. Riley: What is this devil? He sailed down on my hedge. I took hold of his lone front leg, and as quick as lightning he speared me under my thumb nail and I dropped him. My thumb and whole arm are still paining me . . ."

The miscreant was a fine specimen of *Reduvius personatus*, the cone-nosed blood-sucker, soon thereafter to achieve heights of newspaper notoriety together with its cousin, *Melanolestes picipes*, as the "kissing-bug." How many persons died (in type) from kissing-bug bites in the year of enlightened civilization, 1899, will never be known. But from far and near, from California and Connecticut and the Carolinas, from Minnesota and Maryland and Maine, came startling reports of this hitherto unfamed creature's depredations upon the human countenance. Thereby the spider family was relieved of much unmerited odium, for it is more than suspected by entomologists that a large proportion of so-called spider bites are really the work of the more vicious but less formidable-appearing kissing-bug, as is often evidenced by the nature of the puncture.

The kissing-bug is about half an inch in length, flat-backed, shaped in geometrically regular angles, and armed with a large, hard beak. It is this beak which does the damage, for the kissing-bug is a fighter and will risk a prod at anything that gives it cause of offense. Testimony is not lacking that it sometimes punctures the human epidermis with a view to obtaining blood at first hand instead of from its natural prey.

But the curious feature of the kissing-bug's bite is its after effect. Neither the southern *Reduvius* nor the northern *Melanolestes* possesses any venom apparatus. Now, an insect without fangs (or sting), duct, and poison gland, can no more envenom the object of its attack than a fish can kick a man to death. Yet we find such authorities as Dr. L. O. Howard, the United States Entomologist, Professor Le Conte, Mr. Charles Drury, of Cincinnati, and others, including a mass of medical witnesses, declaring from first-hand observation that the kissing-bug bite causes much swelling and severe pain. Le Conte, indeed, compares the effect to snake bite, and states that people are seriously affected for a week. A case is recorded from Holland, South Carolina, where there were vomiting and marked weakness. Mr. Schwartz, an expert of the Bureau of Entomology at Washington, was bitten twice upon the hand and testifies to the painful effects. In 1899, when the species was very common in Washington, the Emergency Hospital had a long list of patients who appeared on the records under the heading, "Insect Bite."

THE DECLINE OF THE KISSING-BUG

Thus was started the general "scare," a reporter with a keen nose for news having made a legitimate "sensation" from the repeated entries on the hospital roster. From Washington it spread over the country, and became the topic of the day, until any insect bite or sting — mosquito, hornet, bedbug, or whatnot — was magnified by the hysteria of the patient and the credulousness of the public into a "dangerous" instance of kissing-bug poisoning. Reports of fatal cases, however, invariably proved to be canards.

For explanation of the marked local symptoms resultant upon attack by the insect, science has been hard put to it. The general symptoms, observed in a few cases, where violent, may probably be ascribed to shock and nervousness. But the marked swelling and pain cannot be thus dismissed. Medical men believe that the insect, in its various prowlings for food, thrusts its exploring beak into decaying animal and vegetable matter and thus, in a sense, so poisons it that when it comes into contact with human blood, a rapid local infection is set up — not through any specific poison, as in spider bite or bee sting, but by the agency of the putrefactive germs collected on the weapon.

Not the least interesting phase of the kissing-bug scare is the rapidity and completeness of its decadence. It is but ten years ago that the newspapers rang with it; that victims of the bite, in every city, were fleeing, white-faced and racked with forebodings, to doctor or hospital. To-day, both the *Melanolestes* and the "conenose" are abroad in the land. Doubtless, upon provocation, they are "spearing" others as they speared the outraged clergyman. But that's all. The bepunctured ones do not seek the consolations of medical or journalistic attention. They put a little wet mud or peroxide on the place and let it go at that. Exit another bogey!

OUR REAL POISON PERIL

The Poison Bugaboo

One venomous creature there is in this country which may justly be termed a public peril, in the widest sense. Proportionately to population, more victims fall to it yearly in the United States than to the dreaded cobra in India. Some twelve thousand Americans are killed every year by its bite. Three hundred thousand more are made seriously ill from the after effects. Unfortunately, the virus works so slowly that alarm is stilled. The victims do not sicken at once. The bite is forgotten; but ten days or two weeks after, the subject falls into a fever. His blood is poisoned within him. Eventually, in extreme cases, he becomes delirious, succumbs to a stupor, and dies.

Yet, because there is nothing horrific to the sensation-loving imagination in the malaria-bearing mosquito, public inertia or ignorance tolerates it with a grin and permits it to breed in city and country alike throughout the length and breadth of the nation. Compared with it, as a real menace, all the combined brood of snakes, scorpions, centipedes, tarantulas, and other pet bugaboos of our childish romanticism are utterly negligible; are as figment to reality, as shadow to substance. It is perhaps characteristic of our wryly humorous American temperament that we should have invested the unimportant danger with all the shuddering attributes of horror, and have made of the real peril a joke to be perennially hailed with laughter in a thousand thoughtless prints.