

## MENTAL INSECT ATTACKS

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In the last eighteen years I have been consulted in connection with three cases of serious mental insect plagues. Each instance involved a middle-aged man, bachelor, in moderate or humble circumstances, living alone in a cabin or little house, afflicted with the idea that he was persecuted by small, fast-flying, tick-like insects that in one instance at least, "burrowed under the skin, causing intense irritation; the insects affected the back of the head and neck by day but at night got into bed and bit all parts of the body; they could be detected only as a streak when flying and moved too fast to be caught." With minor variations, the symptoms of attack and the resultant hysteria, were alike in the three cases.

Two men were from Vancouver and one from the lower Fraser Valley; all three suffered from irritation and burns produced by the severity of various "dopes" with which they had rubbed themselves; none showed any spot or puncture that could be attributed to insect attack. No control measures and soothing salves that were suggested, were acceptable: the men apparently revelled in their afflictions although the hysteria and suffering were genuine enough and rather pitiable. In one case I recommended the "sweat" treatment, "that sweat induced by hard work was a sure cure against all such attacks," hoping to take the man's mind off his affliction but he did not report to me of the success or failure of this prescription.

Messrs. W. Downes and J. D. Gregson, of the Dominion Entomological laboratories at Victoria and Kamloops respectively, have kindly supplied me with additional records of this type. Mr. Downes' case concerned a lady in Victoria who, says Mr. Downes, "imagined that she was being bitten by small flies; she could see them in the air but much to her astonishment always failed to catch one. The hallucination was particularly marked at night when she imagined that she was being bitten

about the arms and neck on which red spots appeared, said to be caused by the bites. She had not had much unbroken sleep for weeks on account of this and her health was rapidly deteriorating. On investigation of the premises I found a spotlessly clean house, reeking of sundry insecticides and disinfectants but not a sign of any insect. I suggested to her the use of an ordinary mosquito repellent which I assured her would keep all insects away. She used this and immediately obtained relief, getting unbroken rest for the first time for a long period. The trouble returned, however, after a fortnight and she was then placed in charge of a doctor. After a course of treatment for neurasthenia her troubles disappeared."

Mr. Gregson's record concerned a man 62 years of age, who wrote in to the laboratory from a town in Alberta, recounting in great detail his persecution by ticks which were "burrowing into his body and reproducing their kind under the skin," drilling up the neck and into the skull. He declared that he had cut out the first attackers from under the skin, bit by bit with penknife and forceps but later ones bored too deeply for cutting out although they could be distinctly felt; he was keeping some from entering his skull by scraping them down under the skin of his neck, with a blade of a penknife. He had consulted a number of medical men and forwarded the name of one who was treating him at the moment. This doctor reported to the Kamloops laboratory, that the man's body presented no skin disturbances or constitutional troubles, that the affliction was purely mental and was yielding slowly to a mixture to be taken by mouth and to abundant reassurance that the treatment would be completely effective.

All these cases follow somewhat the same pattern and course of development. The trouble can hardly be called "Insectophobia" because the sufferer did not hate insects as such: it is a sense of being per-

secuted by one specific, though imaginary type of insect and constitutes a mental fixation or hallucination. All cases probably started from genuine attacks at one time or another, of lice or mosquitos or no-see-ums (*Culicoides*) and perhaps true ticks, which so worried them that the sense of suffering remained to form a mental plague when the insects themselves had passed. This was definitely so in the case supplied by Mr. Gregson, for the man had visited a mining property near Nelson, B.C., with some companions and all members of the party had been attacked by wood ticks which they had completely removed from their bodies and clothing. It was not until several days later that the mental trouble began in the man in question.

What was possibly an incipient case of this kind was encountered in Vancouver in an elderly couple, comfortably off financially, who had rented their house for the season. They returned to find it infested by a few bed bugs which bit both man and wife, and horror and disgust seized them; they rented another house and had their own home treated, cleaned and

redecorated from basement to roof. The fear and loathing of the bed bugs followed them into the rented house and every speck on the walls, on the furniture or in their beds, turned into an imaginary bug and any sudden irritation or feeling on the skin developed into the intolerable itching of a bite.

At this stage I was called in by a friend who actually thought they had bed bugs. I found both people suffering from burns and irritation caused entirely by the number, variety and severity of the "dopes" they had used; the furniture, sheets and mattresses were stained by varied insect sprays including creosote washes, and the blankets had great holes burnt in them by lye. There was not a sign of a bug anywhere in the house.

It took two days of demonstration and persuasion to convince the old people that they had no bed bugs and were not being bitten and probably saved them from developing the same permanent mental delusion and suffering which affected the other people.

#### NAPHTHA GASOLINE IN INSECT KILLING BOTTLES.

—When making population counts of grasshoppers by sweeping, it becomes necessary to kill a large number in a short time. While working on these counts we found that even a quart-size cyanide bottle took too long so we employed a large candy jar containing a quart of methyl alcohol into which the whole tip of the net was dipped. This worked well but the alcohol soon became filthy and we substituted naphtha gasoline and have employed it ever since. It is the fastest killing substance we have used; three seconds is enough to penetrate a mass of grasshoppers as large as a baseball. Large-mouthed jars are sometimes hard to get so we now carry the gasoline in any quart bottle, from which the fluid is poured directly on to the mass of insects in the end of the net, whence it drips into a small tin can. So long as the insects are wetted they die immediately. The gasoline is poured back into the bottle from the can.

Less convenient to carry but equally convenient to use, is a one-inch diameter shell vial containing a little gasoline, with a wire gauze disc shoved half way down. Any insect caught in a net can be tapped into this bottle, which should be inverted and righted again as fast as possible and the insect removed with forceps. Too long immersion induces a rigor which is apt to snap off the legs, especially of grasshoppers whose hind legs invariably come up over their heads.

The gasoline evaporates in a matter of seconds and

does not spoil the bloom on any dipteran, dragon fly or wasp on which we have used it; in fact it cleans insects by degreasing them, especially fresh bumble bees. It should not, however, be used to clean old dry bumble bees whose fur becomes matted when soaked in it.—George J. Spencer, Kamloops, B.C.

ON THE DESTRUCTION OF ALL STAGES OF INSECTS IN PULVERIZED CEREALS AND SPICES.—Within the last two years there has been put on the market a patented mechanical contrivance for sterilizing all types of pulverized cereal products and spices and possibly commercial fertilizers containing fish meal, that are subject to attack by insects infesting stored food products. It is called the "Entoleter" and consists of a relatively simple hopper-fed machine which hurls the material with forced draught through a nozzle, up against a plate, thus destroying all stages of any insect that might happen to be present.

According to the Canadian agent in Toronto, a considerable number of these machines of varying capacities has already been installed in cereal-manufacturing plants in the United States and in Canada. They should prove a boon to the industry on this coast and should reduce to a minimum, the instances of infested foodstuffs attributable to infestations prior to the goods leaving the factories and developing later inside the packages.—George J. Spencer, Department of Zoology, University of British Columbia, Vancouver, B.C.