

CICADA  
KILLERS

Wasp brings home its dinner—a cicada.

## Wasps and Hornets Are Efficient Destroyers of Our Insect Pests

Prepared by National Geographic Society, Washington, D. C.—WNU Service.

STINGS have a high educational value. After one or two experiences with these concealed weapons, the personality of the little stinging-wielders is firmly impressed upon you.

It is quite proper to regard the wasps and hornets with respect, as they insist you shall. But do not let their potent personalities prejudice you against them. For it is within this group, taken in the broadest sense, that is found the cleverest and most ingenious of all the insects, as well as the most efficient and destructive enemies of our insect pests.

The cleverness and ingenuity of wasps take numerous forms. Each of the many thousands of different kinds has its own little specialty which differs more or less from that of every other kind. Among these specialties few are more fascinating than those of the various digger wasps that burrow in the ground and lay up in little chambers food upon which their young subsist.

Look closely into the habits of some of the common digger wasps and see what they are doing in that sultry season when you can think only of vacation, for it is then that they display the greatest energy.

Familiar to everyone in the hot, still, midsummer days is the monotonous shrill song of the cicada.

**Hornets Prey on Cicadas.**  
Once in a while one of these monotonous trills stops suddenly. You hear a discordant shriek that startles you for a moment. Then all is the same again—the heat and the interminable trills of the cicadas.

What has happened? One of Nature's little tragedies. A cicada has been surprised by a cicada-killer, has fled shrieking away, and in all probability has been caught and stung, not to death, but into a state of complete helplessness.

The cicada-killer is one of the largest and most conspicuous, as well as one of the commonest, of burrowing wasps. To many people it is known as a hornet—in fact, the hornet—and is much feared. But it is not at all aggressive. It resents undue familiarity, of course, but its nature is wholly peaceful—except when cicadas are concerned.

Cicadas are its only prey. Sometimes you see it flying about a tree, hunting for a victim up among the branches, or pursuing a cicada at high speed through the air. But it is usually noticed dragging a cicada, often much larger than itself, along the ground on the way to its burrow.

This nursery is commonly made in the higher and drier portions of lawns, or in sloping grassy banks, and runs to a more or less spherical cell about an inch and a half in diameter. The finished nursery usually includes four cells.

After each cell is completed the mother wasp goes on a hunting expedition. In bringing the cicada to the cell she frequently hoists her victim laboriously up a tree, from which she flies diagonally down toward her burrow. Thus she saves much time and energy, for dragging a creature as large as a cicada through the grass is a herculean task even for so powerful a wasp. Usually, though not invariably, a second cicada is added to the first.

After the cicadas—still alive but helpless—are stored safely in the underground cell, the wasp places an egg on the body of one of them just under one of the middle legs, then closes the cell with earth.

**Week's Food for the Grubs.**  
The egg hatches in three days, and the grub feeds on the cicadas for a little over a week. It then makes a cocoon of earth, mixed with enough silk to make it rather dense, and spends the winter inside. In the spring, after passing through the pupa stage, the wasp digs its way out of the ground.

The cicada-killers that you see walking or flying about a grassy slope are living evidence of the numerous tragedies that have taken place beneath the sod.

Only the young of this wasp feed on cicadas. The adults, as is the case with nearly all the wasps, are vegetarians. For many days after emerging from the ground, the ci-

cada-killers, indolent and peaceful, wander aimlessly about, lapping up nectar from the flowers.

They are especially fond of the sap of certain trees. If truth must be told, they much prefer this sap after fermentation has transformed it into more or less strong beer.

Idle ease, nectar, and beer satisfy these wasps for a few weeks. During this time they display not the slightest interest in cicadas. Then, with the attainment of full bodily development, the females somewhat suddenly become demons of dynamic energy murderously inclined toward all cicadas—full-fledged cicada-killers.

The cicada-killers are interesting because of their great size, and the bulk and power of their victims. It is a thrilling sight to see one of them strike a cicada in full flight and, with its prey, go tumbling to the ground. But their technique is crude—effective, but lacking those finer touches that perfect the picture. So let us consider the most accomplished artists that are found among the digger wasps.

**How Wasps Use Caterpillars.**

Rather large, very slender, and long-waisted wasps commonly are seen early in the summer on wild carrot and other flowers, about decaying fruit, or drinking at the sides of puddles. Indolent and peaceful, they are unsuspecting and slow to take offense. These are young caterpillar wasps, for which as yet life means little more than feeding on nectar in full enjoyment of the summer sunshine.

Lazy, slow-moving creatures, with an air of complete boredom, they could scarcely appear less interesting or more slothful. But while they are spending their time in frivolous enjoyment they are developing strength and energy and acquiring a knowledge of the world.

Energy finally gets the upper hand, and the female forsakes the flowers almost completely. The first thing she does on becoming energetic is to find a patch of bare, stiff soil, more or less protected, and there dig a burrow ending in an enlarged chamber, oval in shape and horizontal.

After the burrow is completed the wasp closes the opening with a little stone or a pellet of earth of just the right size, or sometimes with several pellets, filling the hole up level with the ground and often kicking some loose earth over it.

Her burrow completed, closed, and concealed from view, she now goes in search of prey—caterpillars found on or near the ground. The commonest one prefers green caterpillars much larger than herself.

When a caterpillar is discovered the wasp knocks it off the leaf onto the ground. Then, watching her chance, she seizes it with her mandibles near its head and gives it a prolonged sting between two of the earlier segments. This ends the struggle of the caterpillar.

The wasp then stings its victim between the other earlier segments and between most or all of the hinder segments. The stinging is followed by a thorough squeezing of the neck between the mandibles all around, this squeezing process lasting for some time.

**Put in Cleverly Closed Burrow.**  
The caterpillar, reduced to complete inertness and lying extended at full length, is now ready to be transported to the burrow. The wasp turns it on its back; then, seizing it by the throat, lifts its head off the ground and drags it along at a very creditable pace—at least when the ground is smooth and the way is unobstructed.

The caterpillar is finally brought to the burrow, which is opened and the victim placed inside. Sometimes a single caterpillar is sufficient, but usually two or even more are needed. If more than one is stored, the burrow is always closed after each is placed within it. When the store of caterpillars is complete and the egg is laid, the burrow is permanently closed with the greatest care.

Now comes the most interesting part of the whole proceeding. The wasp searches for a little stone of just the right size and shape, and with this held firmly in her jaws she pats the earth down very carefully to obliterate all traces of her work.

SEEN and HEARD  
around the  
NATIONAL CAPITAL  
By Carter Field  
FAMOUS WASHINGTON CORRESPONDENT

WASHINGTON.—A very prominent New Dealer, Thurman W. Arnold, now the official trust buster of the administration, frequently expresses amazement at the morals and sense of civic duty and mental processes which permit big corporations to cut wages or lay off help if they have a surplus at the time.

The curious element about this statement is that it comes from the official trust buster. It involves a very simple question in economics, which anyone who has ever been in business, even if it were a peanut stand, can follow.

To dismiss all questions of morality, loyalty to one's employees, and that sort of thing, assume that the Ford Motor company has a huge cash surplus, which it actually has, but that none of its competitors has, which is not true. Also assume that Henry Ford is deeply imbued with the thought that Mr. Arnold thinks he should have. (The writer does not know that Mr. Arnold has ever applied his theory to the automobile industry. He talks mostly about steel when he is discussing it.)

What would happen when the normal situation, which results in cutting pay or laying off workers, develops? Obviously Ford, having a big surplus, would go on producing cars at top speed, while his competitors, in this illustration not having any surpluses on which to draw, would have to close down.

## Lead to Monopoly

There being no demand for cars, that being the cause of the situation, Ford would be forced to do one of two things. He could either store his product in the hopes that a revival of buying would eventually take them off his hands, or he could slash prices in order to force the cars out. If he did the latter, he would eventually put all his competitors out of business. He would be selling cars below cost, using up his surplus, in order to keep his workers employed. But the moment that times became better he would have a tremendous advantage. His plant would be going under full steam. Big production would have cut his costs way down. Operation, instead of idleness, would eliminate the wastes of a shutdown. He would be able to slash prices still more in order to continue going full blast.

Meanwhile, especially if the depression were of some duration, this very activity would have made the resumption of selling by his competitors more difficult. There would not be the piled up demand that usually ends a depression. There would not be hundreds of thousands of persons who had run their old cars a few years too long. They would have bought new Fords at the reduced prices.

Carried to its logical conclusion, the company with a big surplus could thus eliminate its competitors, and acquire a monopoly in almost any field.

## Food for Thought

One of the spokesmen for the New Dealers has just written a short article predicting government ownership of the steel industry. The article attracted singularly little attention merely because nobody believed it! Actually there is considerable food for thought in it.

It was far from the half-baked statement most readers thought. It showed a study of the steel industry had been made by some of the informants of the writer, and it was remarkably accurate in predicting the probable course, as seen by men inside the steel industry.

For instance, the government has been seeking for several years to break down the so-called basing-point system. Actually the basing-point system was a lifesaver for the smaller steel companies. It forced the quotation of prices as of certain places, the basing points, the price always being the fixed amount plus freight from this basing point. Naturally, being the biggest of the steel companies, and a merger of many original units, the U. S. Steel company has plants in more localities than its competitors. Therefore, with basing-point bidding eliminated, and with all bids submitted providing for delivery on freight cars at the steel mill, the company with the most widely separated plants has a tremendous advantage.

Buyers patronizing it would have to pay only the freight rate from the mill of that company closest to the point where they proposed to use the steel.

In view of this situation, it is difficult to understand why the trust-busting section of the government has been so anxious to break up a practice which actually helped maintain competition, or at least it was until this article by a comparatively unofficial spokesman. He states the only answer that has been made which appeals to the logic of those who have been wondering about the government's course.

The answer, of course, is that the government is looking ahead of the immediate developments, and planning to take over the steel business just as it has been moving in on the electric business now for several years.

## All-American Waterway

Development of an all-American waterway in lieu of the St. Lawrence seaway is urged in a letter to Secretary of State Cordell Hull by Commander Eugene F. McDonald Jr. McDonald was a member of the MacMillan polar expedition.

"Many years' experience," McDonald wrote Secretary Hull, "in navigation of the salt and fresh waters of the world, from within 11 degrees of the North pole to and beyond the equator, prompts this letter to you.

"Recently, while returning from a 12,900-mile winter cruise through the Caribbean and as far as South America, I brought my 185-foot Diesel yacht Mizpah through the St. Lawrence waterways to Lake Michigan and then on to Chicago. I have made this same trip many times before, but my recent experience brought again rather forcibly to my mind the St. Lawrence system as it exists today.

"Born in Syracuse, N. Y., I have known the Erie and Barge canals since boyhood. For 25 years I have explored the waters of the Great Lakes and their tributaries, and have a deep interest in their development as waterways. I have no personal or commercial interest of any kind at stake.

"I hope I am, therefore, able to consider the problems presented by the proposed Great Lakes-to-ocean waterways with an informed, but detached and objective, viewpoint.

## Enlarge Barge Canal

"The conclusions that have forced themselves upon me are the following:

"1. A deep waterway—a ship canal—between the Great Lakes and the Atlantic ocean is, unquestionably, to be desired. Especially is this true when we consider that, in years of normal crop movement, some 12 per cent of the total United States foreign trade clears through the Great Lakes—even with our present inadequate waterways.

"2. Why build this great waterway through Canada, either wholly or partially with American money, when the more logical, more economical, shorter route can be wholly an American waterway? I am speaking of enlarging the Barge canal, through New York state, to the proportions of a ship canal.

"3. New York city, as a seaport, is closer than the mouth of the St. Lawrence to all the world markets, with the exception of Labrador, Greenland, Iceland, Newfoundland, and northern Europe.

"By this all-American waterway route Buffalo, Cleveland, Toledo, Port Arthur, Fort William, Toronto, Detroit, Milwaukee, Duluth, Chicago, and all the other Great Lakes ports—whether Canadian or American—and their tributary territory, will be 1,559.3 miles closer to New York and to all the seaports of the world than they would be by the St. Lawrence route, with, of course, the few exceptions named above. From Buffalo to New York, via the Welland canal and the St. Lawrence, is 2,066 land miles. Yet it is only 506.7 miles from Buffalo to New York via the Barge canal.

"The Hudson river is already dredged, and available for ocean-going ships, from New York to Albany, with a 27-foot draft channel. The all-American route would merely entail the deepening and widening of the Barge canal, the installation of new locks, and the removal of fixed bridges over a distance of 362.5 miles, from Buffalo to Albany.

## Another Suggestion

"A still more practical, economical, all-American route can be made by merely enlarging the Barge canal from Buffalo, or Tonawanda, to Lockport, and creating a new canal, of a length of 12 miles, from Lockport to Olcott, which is on Lake Ontario. The route then to go through Lake Ontario to Oswego, and enlarging the Barge canal from Oswego to Albany. This latter route would entail the deepening of the Barge canal for a distance of only 213.6 miles, and the creation of a new canal of 12 miles.

"In my opinion, either of these shorter, all-American routes can be constructed for less than the proposed deepening of the St. Lawrence waterways. In case of emergency, we would then have an all-American waterway to move our much needed vessels from the Great Lakes to the Atlantic ocean.

"If a plan such as I have outlined were adopted, it would not be necessary, in order to get some of our vessels to the seaboard, to dismantle them and, in fact, actually cut them in two, as was the case during the last emergency because of the inadequacy of the present waterways.

"Last, but not least, it should be borne in mind that because of the more favorable southern latitude of the all-American route, it would be open a number of weeks longer each year than would the Canadian waterway. The low cost of transportation by the all-American waterway is bound to increase business and create jobs for the unemployed."

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WHO'S  
NEWS  
THIS  
WEEK

By LEMUEL F. PARTON

NEW YORK.—England pioneered the businessman-diplomat—shrewdly and effectively, it would seem. Many of her best fixers and negotiators throughout the world have been men who had a personal stake in the outcome of their operations.

## Best Fixers Have Stake In Deals

They were not disinterested, perhaps, but no more were the traditional diplomats who knew protocol, perhaps, but nothing about oil.

America followed with Norman H. Davis, a financier who became an effective European swing man under five presidents, and then came Spruille Braden, engineer and industrialist who was our ambassador-at-large in Latin America until he became minister to Colombia last April.

President Roosevelt, agreeing to act as an arbitrator in the Chaco dispute, picks Mr. Braden to represent him. In his own private industrial diplomacy throughout South America, the husky and gregarious Mr. Braden has proved himself an excellent pacifier and trouble-shooter.

He knows the score in oil, copper, rubber, minerals, hides and what not, and this materialized and particularized diplomacy has made him useful in diplomatic representations at various South American conferences. He has been working on the Chaco settlement for the last three years.

In his youth, he did a short turn in the mines near Elkhorn, Mont., his native town, and then went to Yale and became a mining engineer. He was a second-string halfback at Yale, but a first string engineer and promoter from the start, electrifying Chile for Westinghouse, organizing the Bolivia-Argentina Exploration corporation, branching out widely in South American development and finance. He desperately wanted to be minister to Chile, but was consoling with Colombia.

He is forty-four years old, remembered in New York as the fastest and hardest-working handball player around Jack O'Brien's gymnasium, in which he combated a tendency to plumpness, creeping up on him a bit in late years.

He was married in 1915 to the beautiful and socially eminent Senorita Maria Humeres del Solar of Chile. They have three daughters and two sons. Their New York residence is the former George W. Perkins estate at Riverdale-on-the-Hudson.

Water and Reducing.

It is often pointed out to overweighted people that as fat tissue holds so much water, if they would cut down on their water or liquid intake for three or four weeks, or until the body, by means of the water in all foods, has taken a definite amount of water from the foods, they would lose weight more rapidly. This is a point known to boxers, wrestlers, jockeys, and others whose weight must be kept within certain limits but seems to be unknown to a great many overweighted.

Overweights state that they always thought water was "good" for them because it washed out wastes, cleared out the kidneys, and added no weight. Water is "good" for everybody; every body needs it in order to work properly. But the body needs only so much water or liquids daily, and in fat individuals much of what is not used is stored away in the fat, just as the fat itself is stored away in overweighted because it is not used or needed.

What most overweighted forget is that all the water taken into the system must be considered or accounted for; this means not only water, tea, coffee, milk, soft and hard drinks—but also the water in food. For instance, semi-solid foods contain a great amount of water and even the driest most solid food contains some water. Nuts, dry cereals and crackers may contain as much as 5 to 10 per cent of water; fruits and vegetables contain a great amount of water, some as high as 85 to 95 per cent.

Gretna Green Marriages.

For decades Scotland's Gretna Green has been famed for its marriages of elopers, many of whom were pursued by irate parents and took their vows as hastily as possible over a smithy's anvil, for fear an irate relative would break up the proceedings.

"Jigger" Kind of Flea.

The "jigger" is a kind of flea which is found in tropical countries, has the habit of burying itself in the skin of the foot—either of a person or an animal, it doesn't care which. There it swells till it is the size of a small pea, causing the most intense irritation.

Snoring—  
Cause and CureBy  
DR. JAMES W. BARTON  
© Bell Syndicate.—WNU Service.

WHEN we think of disturbing noises it is the automobile horn, the locomotive whistle, the siren of the ambulance or the fire truck that we have in mind. Noise is so harmful to the body and brain that all over the world—London, New York, Paris, Berlin, and in smaller cities—laws are now in force to lessen all noises.

Noise keeps the nerves tense, the nerves keep the muscles tense, so that in a noisy factory or office, fatigue or tiredness comes on sooner because tenseness of the muscles tires just as if one were working. Naturally also if one is kept alert by noise there is not much chance for rest or sleep.



Dr. Barton

However, all noise is not outdoors and one of the most disturbing noises—to others—is snoring. Snoring has been measured by the audiometer in sound units, the decibel, which is the smallest sound that can be heard by the normal ear. This machine shows that the sound of the snore is 40 decibels which is equal to the sound of a noisy office or automobile.

In Hygeia, Margaret McEachern stated that, according to careful estimates, one out of every eight persons snores more or less regularly, and no doubt every person snores occasionally.

## How It May Be Cured.

What is the cause of snoring and what can be done about it?

There are many causes of snoring but most cases are due to some obstruction to the breathing—enlarged turbinate bones, bending to one side of the septum (the bone and cartilage partition between the nostrils), adenoids in children. Many cases are due simply to lying on the back and letting the mouth drop open.

The "noise" from snoring is due to vibrations while breathing in and out of the soft palate and the uvula (the little portion of flesh hanging between the tonsils or the place where the tonsils have been).

Lying on the left side when the left side of the nose is "blocked" and the right side when the right side of the nose is blocked, prevents snoring because it allows the wing or side of the nose to drop down, leaving more air space because nostril becomes more widely open.

However, as Margaret McEachern points out, the best plan to cure the "snorer" is to have him visit the family physician or the nose and throat specialist and have obstruction corrected.

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All Is Fair Even If  
It Is a Dog's Life

He was a pork butcher, and he and his sausages had done very well indeed in the town—until a rival came along and, by undercutting and pushful publicity, started to take all the trade.

Butcher No. 1 was sitting in his shop musing on what the inside of a poorhouse would look like, when a bright idea suddenly struck him.

Changing his clothes as quickly as he could, he hurried to his competitor's shop and, elbowing his way through the crowd of customers, planted a dead dog on the counter.

"Ere y'are, Jack," he exclaimed in a loud voice. "That makes the dozen."

How Women  
in Their 40's  
Can Attract Men

Here's good advice for a woman during her change (usually from 38 to 42), who fears she'll lose her appeal to men, who worries about hot flashes, loss of pep, dizzy spells, upset nerves and moody spells. Get more fresh air, 8 hrs. sleep and if you need a good general system tonic take Lydia E. Pinkham's Vegetable Compound, made especially for women. It helps Nature build up physical resistance, thus helps give more vivacity to enjoy life and assist calming jittery nerves and disturbing symptoms that often accompany change of life. WELL WORTH TRYING!

## Time for Courtesy

Life is not so short but that there is always time enough for courtesy.—Emerson.



WNU-U

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