

## ASTRONOMY

# Daytime Meteor Shower

Radar has discovered a display of meteors, hidden by sunlight. For three months the "shooting stars" have sped to earth.

► A DAYTIME meteor shower that peppered the earth for three months has been discovered by radar.

This new display of "shooting stars" is blinded out by sunlight. It would never have been found by the old-fashioned method of visual observing or even by photography. It could be detected only by the war-developed electronic method of bouncing radio echoes off objects, thus locating them. Meteors are pin-head sized particles that bombard the earth's atmosphere only to vaporize in a flashing instant.

Dr. A. C. B. Lovell, director of the University of Manchester's radar research on meteors, has announced the

discovery in a communication to the British Astronomical Association.

Early in May the meteor shower was picked up as "pips" in the radar signal. The shower continued until early this month when it diminished markedly. Each day there was a peak in the meteor shower at about 11 a. m. The meteors seem to come from about the direction of the sun, which is an astronomical effect due to the varying motions of the sun and earth. Daylight prevents them from being seen visually.

Often the hourly rate of meteors recorded by radar has exceeded 80, and at the daily height of the shower never fell below 20.

*Science News Letter, August 23, 1947*



**OFFENSIVE WEED**—The tall ragweed grows as high as 15 feet, with stiff, reedy stalks.

## BOTANY

# Hayfever Weeds Bloom

Ragweeds are beginning to spread their poisonous pollen in the North and will soon be blooming in the South. Here is how to curb them:

## See Front Cover

► RAGWEEDS have come into bloom, spreading hayfever in northern and central states, and will soon be doing their mischief in the South as well. Yet there is still time to check the shedding of their poisonous pollen with the new weed-killer, 2,4-D, if prompt action is taken.

If you don't suffer from hayfever, you will be doing a kindness to many of your neighbors if you will spray 2,4-D solution on the weeds in your neighborhood, and rouse the community to attack all along the line.

Ragweeds are the worst of our offensive weeds. Their pollen, floating invisibly in the air, makes eyes red and watery, noses puffy and sneezing. The number of persons susceptible to ragweed pollen is probably far less than that of ivy-susceptibles, but whereas you have to go to the poison ivy to be poisoned, the ragweed sends its pollen wherever summer breezes blow, so every hayfeverite is sure to be tormented if

he stays in ragweed territory during pollen-shedding time.

There are several kinds of ragweed, of which two are most abundant and most widely distributed. The common or low ragweed has finely divided leaves on tough, wiry, much-branched stems usually two or three feet high, although eight-foot thickets of it have been reported from Florida. It ranges from the Atlantic coast to almost the base of the Rockies, with its greatest abundance in the Corn Belt.

The tall or giant ragweed has leaves with three large lobes growing on tall, reedy stalks that get to be as much as 15 feet high. Usually they are thickly massed and hardly branched at all, but when a specimen gets enough room for itself it will branch freely and not grow so high.

Foliage of both weeds is coarse and disagreeable to the touch. That of the low ragweed has a taste so bitter and rank that nothing will eat it, not even a goat. Horses and mules will eat the leaves of the tall ragweed; presumably

one of its aliases, horseweed, is in recognition of this.

Flowers of the two plants are much alike, though the flowers of the tall ragweed are much larger. Unlike most familiar flowers, the sexes are borne separately though on the same plants. It is the male or pollen-bearing flower-clusters, borne at the tops of the stalks and branches, that are the trouble-makers, of course. If you are not subject to hayfever, you can get a demonstration of their producing capacity by gently shaking a ragweed. The resulting pollen shower will be astonishing.

Since these flowers have no petals, many people do not recognize them as flowers at all. And because they and the goldenrod are in bloom at the same time, the goldenrod often gets the blame for hayfever. This in an intolerable libel on a beautiful and innocent plant.

Ragweeds begin blooming in the latitude of Minnesota early in August, and the wave of their blossoming rolls southward for about three months. Peak of pollen production in the region of Chicago is about the end of August; it does not come until early October in the neighborhood of Houston, Texas. The season is much shorter in the North than in the South.

2,4-D attack on ragweed can be made at any time. Standard solution is one part 2,4-D to 1,000 parts water. Spraying should be done on still, warm days, to avoid injury to neighboring plants.

It is best to strike it early, of course; but if that has been neglected there is still time even after the pollen-shedding begins. Any given ragweed plant will shed pollen for several weeks, with new flowers coming to maturity all the time. But if the plant gets its dose of 2,4-D it will be crippled if not killed, and the shedding of pollen will stop very soon. Fortunately for us, ragweed is one of the most sensitive of plants to the poisonous action of 2,4-D.

In the Midwest, this should be an especially good time to go after ragweeds, because their thickest stands, especially of the tall species, are on flat river-bottom lands. The floods blotted out millions of acres of ragweed this summer, along with the cornfields, so in many places the spraying crews will

have only the upland ragweed patches to deal with.

In cities, ragweed thrives most rankly on wastelands—the neglected patches between tracks in railroad complexes, on vacant lots, around tumble-down abandoned houses and other buildings. It used to be necessary to send scythe squads to do the sweaty job of mowing them down; now it can all be done with a sprayer.

Of course, there will still be hayfever even if all the ragweed patches in your community are accounted for. The pollen is very light, and the wind carries it for miles from masses still growing in the country. But it is worth while to kill city ragweed patches anyway, for every reduction in pollen density in the air will benefit hayfever sufferers.

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#### MEDICINE

## Weapon Checks Cancer

**Chemical, urethane, is being tried against cancer of the prostate gland and has been successful in some cases. It is poisonous drug.**

➤ A NEW CHEMICAL weapon against cancer is being tried at the University of Chicago. This chemical is called both ethyl carbamate and urethane.

It causes "inhibition" (checking) of some cases of cancer of the prostate gland, Drs. Charles Huggins, Sung Ting Yu and Ralph Jones, Jr., report in *Science* (Aug. 15).

Considerable decrease in size of the cancer, relief of pain and an improved sense of well-being occurred in three patients with widespread cancer of the prostate who were treated with this chemical.

The chemical, however, is a relatively poisonous drug. One patient who was given it for 33 days showed improvement at first, but six days after the drug was stopped, he died of necrosis of the liver. Much smaller doses were given to other patients without harm and with some improvement in their condition.

The drug must be given with great caution, the doctors warn, and the number of white blood cells must be checked frequently. When these drop to less than 4,000 per millimeter or when the patient is nauseated, the drug must be stopped.

The chemical is one of a number the Chicago doctors have been investigating for use in cases of cancer of the prostate that have relapsed after being con-

trolled for a time by anti-male hormone treatment.

The anti-male hormone treatment was introduced by Dr. Huggins several years ago. It consists in either surgical removal of the male sex glands or treatment with female sex hormone or both. It is not completely satisfactory because, although the patients at first improve, 80% of them relapse in less than five years.

The favorable effects of urethane are not due to anti-male hormone action or to interference with the cancer cell's nutrition.

The chemical also has a suppressive effect on a transplantable cancer of rats, the Chicago doctors found.

Ethyl carbamate, or urethane, has previously been used as a sedative and, with quinine, in the treatment of varicose veins.

Almost half a century ago the German scientist, Otto Warburg, discovered that small amounts of this chemical would check cell division in fertilized eggs of the sea urchin. Last year a group of English scientists, Drs. E. Haddow and A. Paterson and their associates, reported that it caused a temporary but significant slowing of the growth of mouse breast cancer and a cancer in rats and had a very great palliative effect in human leukemia.

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#### CHEMISTRY

## Old-Fashioned Insect Bane To Give DDT Competition

➤ DDT, 666 and some of the other new synthetic insecticides may presently have competition from a modernization of an old-fashioned discourager of insects, black pepper. Edward Harvill, chemist on the staff of the Boyce Thompson Institute for Plant Research at Yonkers, N. Y., combines piperine, extracted from pepper with alcohol, with pyrethrin, to make a highly potent insecticide. A one-tenth per cent solution made a 99.8 per cent kill of flies in one test, he states. His patent number is 2,425,530.

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