SCIENCE NEWS

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VAN GENT'S COMET

A COMET bright enough to be seen with the naked eye is now in the northern sky.

Van Gent's comet, named after the astronomer at the Johannesburg Observatory in South Africa who discovered it in May, is now well above the sixth magnitude, the faintest at which a star, under best conditions, can be seen without the aid of a telescope. A comet is a little harder to see, because, unlike a star, its light is diffuse, and is not concentrated in a point.

During the end of August and early September, Van Gent's comet, according to a schedule prepared by Dr. George Van Biesbroeck, of the Yerkes Observatory, reaches its brightest, with magnitude 4.8. By mid-September it will be drawing away from the sun, though it will come closer to the earth, and will be fainter. But even in early October it will be of magnitude 5.6, still above the naked eye limit.

If you want to see this comet you should look to the northwest as soon as it gets dark. You can easily, if it is clear, find the big dipper, part of Ursa Major, the great bear. Around September 1, the comet will be directly under the end of the dipper's handle, which extends to the left. Unfortunately, about this time, the moon, full on September 5, will be very bright and add to the difficulties. The moon reaches last quarter, when it does not rise until about eleven o'clock, on September 13, and then the comet will still be nearly as bright as a week or two earlier.

In the glare of a large city, and with the smoke and dust usually surrounding such an area, it will probably not be possible to see the comet, at least not with the naked eye. However, if you use a pair of binoculars, and look carefully at the region indicated, you may be able to find it. And if you are able to get away from the city to a place where there is a clear northern sky, the binoculars will also help you to find it. Then you can probably pick it up without the glasses.

Van Gent's comet has a short tail, points upwards, since all comet tails point away from the sun. The tail consists of fine dust gases which are discharged from the nucleus as it approaches the sun. Because these weigh so little, they are actually pushed by the pressure of light from the sun, just as wind pushes smoke from a locomotive as it moves along.—JAMES STOKLEY.

ENCEPHALITIS, INFANTILE PARALYSIS AND PLAGUE

THE encephalitis outbreak is gaining ground rapidly in North Dakota and Minnesota, according to reports received by the U. S. Public Health Service. In North Dakota, new cases reported for the week ending August 16 had mounted to 340 as compared with 178 the previous week. Another potential danger in this state is seen by health officials in an outbreak of sylvatic plague found in fleas from ground squirrels. This disease has been known to spread to human victims.

Minnesota, doubly troubled with both sleeping sickness and infantile paralysis, reported 121 cases of sleeping sickness as against 65 the previous week, and an increase from 12 to 14 cases of infantile paralysis.

In neighboring Manitoba, across the Canadian border from North Dakota and Minnesota, 22 sleeping sickness cases have been reported as occurring recently. This region had previously reported an outbreak of infantile paralysis. Health officials think that there may be some significance in the doubling up of infantile paralysis and sleeping sickness there and in Minnesota. The two diseases are similar in some ways; both affect the nervous system. It is possible it may be discovered that both can be acquired from the same or related sources.

In South Dakota the number of sleeping sickness cases went down from 61 to 44.

Reports from various parts of the nation of infantile paralysis cases show the same rate of increase for the week ending August 16 as during the previous week. Although the percentage increase remained the same, the actual number was larger, however. The jump was from 422 for the week ending August 9 to 549 in the week ending August 16, exclusive of West Virginia which has not yet reported. Figures for the week of August 2 were 326. This means an increase of 127 cases for the week ending August 16 compared with an increase of 96 cases for the week before—just about 30 per cent. in both periods.

The largest number of cases are still concentrated in the south Atlantic and east south central states where Alabama reported 82, Tennessee 37, Kentucky 15, Georgia 69, North Carolina 16, South Carolina 11, Maryland 16 and the District of Columbia 8. Increases were not very large there, however.

Most significant increases were in New England where the number jumped from 7 to 22, in New York with an increase from 30 to 49, Pennsylvania from 17 to 45, Ohio from 27 to 37, Illinois from 8 to 18, Michigan from 10 to 16 and Wisconsin from 1 to 5. Iowa reported five cases and Missouri four. Neither of these two states had cases in the previous week.

A case of plague in a human victim has been reported by California health authorities to the U. S. Public Health Service in Washington. This report follows closely on a warning issued by the American Medical Association that war conditions might cause a frightful epidemic of plague to sweep the United States. Plague is prevalent on the Pacific Coast in fleas, rats, ground squirrels and marmots. Recently it was reported spread to North Dakota in the fleas that infest squirrels there.

The last outbreaks of plague in a Pacific Coast port occurred in Los Angeles in 1924. During that epidemic there were 32 cases of pneumonic plague with 30 deaths, and 7 cases of bubonic plague with four deaths.

THE JAPANESE BEETLE

JAPANESE beetle, one of the most alarming insect pests that ever invaded America, shows signs of "settling

down'' and becoming only a ''normal'' nuisance instead of a veritable scourge. Evidences pointing in this direction have been turned up by entomologists working at the New Jersey Agricultural Experiment Station at New Brunswick.

Maps of the distribution of the beetle, made in successive years, show that infestation is always worst in newly invaded territory. The first map, made when only northern New Jersey was afflicted, shows a limited area, all black. The next map, showing conditions after the active spread had begun, shows a lighter infestation in the original area, with the black of severe infestation in the newly occupied regions. At present, the map is black from Washington, D. C., southward into Virginia, with the black frontier on the west well out into Pennsylvania.

The principal reason for this lessening of severity appears to be the overtaking of the beetles, especially in the larval stage, by their natural enemies—the phenomenon known as biological control. This arises partly in the course of nature, but it is assiduously promoted by Federal and State entomologists.

Most promising of biological controls thus far found are the bacteria that cause the ''milky disease'' of the beetle's larvae or grubs. It wipes them out by billions, greatly reducing the infestation where it is prevalent.

Entomologists carefully inoculate large numbers of grubs and after they are thoroughly riddled with the disease dry their bodies and grind them up into a white powder containing vast numbers of bacterial spores. They plant quantities of this powder in heavily infested areas, and let natural distribution take care of the rest.

One of the lastest discoveries in this field, made by workers in the U. S. Department of Agriculture, is that adult female beetles, which are themselves not subject to milky disease, may serve as distributing agents. They come to maturity under ground, like June beetles. As they crawl to the surface, bacteria present in the soil may cling to their bodies. Then, when they alight later on to lay their eggs, they unwittingly provide for the destruction of their own offspring by shedding some of the bacteria that they have been carrying.—FRANK THONE.

ITEMS

ASTRONOMERS have discovered a new object in the heavens and telescopes, particularly in the southern hemisphere, are keeping track of it to find out whether or not it is a new comet. It was first discovered by astronomer Dutoit at the southern station of Harvard University, at Bloemfontein, South Africa, on July 18, and later independently observed on July 25 by astronomer Neujmin at Simeis Observatory in the Crimea. The object is now 9th magnitude, too faint to be seen without a telescope. It is in the vicinity of the constellation of Aquila, the eagle. More observations will be needed to determine whether it is a comet and whether it will become visible to the unaided eye.

THE moment a thunderstorm threatens, get into the the house, preferably into a large house. This is the advice of Dr. P. L. Bellaschi, in charge of the Sharon high voltage laboratory of the Westinghouse Electric and Manufacturing Company, who has dealt with more than 400,000 strokes of artificial lightning and reviewed the case histories of more than 100 deaths by natural lightning. In the house choose a spot near the center of the room. Stay away from windows, open doors, stoves, pipes, chimney and fireplace. The most dangerous place to be is out in the open. About 90 per cent. of lightning casualties occur in the rural districts. If no large barn or farmhouse is in sight, do not make for a shed, booth or small open barn. Keep away from tall isolated trees, wire fences, poles, pipes, tractors and other metal objects. Get away from beaches, swimming pools and fishing ponds. Make for depressions, valleys or dense woods. If you are in your car, it is the safest place. Recently, Dr. Gilbert D. McCann, in charge of Westinghouse lightning studies at East Pittsburgh, sat in a steel-topped sedan while bolts of 3,000,000 volts artificial lightning repeatedly struck the top. Steel-topped busses and trains are equally safe.

TEAR gas (chloropicrin) makes the soil safe for watermelons in parts of the country, especially the South, where the destructive eelworm pest has practically wiped out watermelon culture, has been discovered by investigators in the U. S. Department of Agriculture. Chloropicrin has been known for some time as an effective soil disinfectant, killing some kinds of weed seeds as well as worms, earth-dwelling insects, etc. It has been used by greenhousemen, but its cost places it out of the question for the large masses of soil in outdoor fields and gardens. Eelworms travel at the modest rate of an inch a month. Hence, if the spots where watermelon hills are to be located are given a sufficient injection of the tear gas to clean out the area that is going to be occupied by the watermelon roots, the crop can be grown and harvested safely.

FULL color prints can now be made from the usual Kodachrome transparencies. This has been the desire and dream of camera users ever since the introduction of the Kodachrome process in 1936. These prints for amateurs are enlarged from either 35 millimeter or bantam-size Kodachrome transparencies. Enlargements of twice and five times original size are available. The minicolor print feels like a fine playing card. However, the print support or base is not paper or card but pigmented cellulose acetate, the material of which safety films are made. The prints are doubly varnished; hence they are very durable and can be carried in the pocket without injury. Professional grade prints are offered, under the trade name ''Kotavachrome.'' These can be had in sizes up to 30 by 40 inches, a size never before successfully obtained in full color prints. The Eastman Kodak Company states that while the dyes used in these color prints are as stable as possible, consistent with their other requirements, they can not be guaranteed not to change. The prints, they say, should not be exposed for long to direct sunlight. At present both the amateur and the professional prints are made at Rochester.