

VIROLOGY

Identify Two New Viruses

A clue to the identity of the "common cold" has been provided with the discovery and identification of two viruses associated with respiratory disease in children.

► TWO NEW viruses thought to be responsible for many of the respiratory illnesses suffered by children have been identified.

Their discovery and identification now makes it possible for scientists to perfect a vaccine that will provide protection against them.

The two viruses, which resemble influenza but are biologically distinct, are called Types one and two hemadsorption virus of the myxovirus group. Their discovery chips away some more at what many persons lump together as the "common cold." The cold now seems to be many diseases, including at least 70 newly recognized viral types identified since 1948.

The viruses were recovered in monkey kidney tissue cultures from throat swabs of infants and young children with respiratory illnesses by investigators from the National Institute of Allergy and Infectious Diseases, Bethesda, Md., and Children's Hospital of the District of Columbia.

The viruses were detected with a recently devised method for rapid diagnosis of influenza called the hemadsorption test, which gave its name to the new viruses.

The scientists report serologic data suggest that the viruses' contribution to respiratory diseases in children may be substantial. Both types have been isolated from groups

of patients in Washington, D. C., and Cincinnati, Ohio, suggesting further that they may be common respiratory viruses in many communities.

It has been demonstrated that vaccines can be developed to protect against some viral diseases such as the two new types once the causative agents are known. Preliminary surveys for antibodies against the new agents have already shown them in the serums of 55 adults.

The team that discovered the new agents included Drs. Robert M. Chanock, Robert H. Parrott, Katherine Cook, B. E. Andrews, J. A. Bell, Thomas Reichelderfer, Albert Z. Kapikian, and Robert J. Huebner of the Public Health Service and Children's Hospital. They report their work in the *New England Journal of Medicine* (Jan. 30).

Science News Letter, February 8, 1958

ENDOCRINOLOGY

Potent Hormone Stimulates Red Cells

► A POTENT RED blood-cell-stimulating hormone factor has been discovered in the urine of some patients with severe anemia.

The factor is called urinary erythropoietin by the scientists in the University of Cali-

fornia's Donner Laboratory who discovered it. The extract is similar in action to the erythropoietin previously obtained from plasma of small animals.

The factor enhances the body's production of red cells of the blood. This is the first time a highly potent fraction has been obtained in large enough quantities for adequate chemical and biological investigations.

The scientists found the factor first in an 11-year-old girl with aplastic anemia, in which the bone marrow apparently cannot do its job of manufacturing red cells. It was later found in a second patient with aplastic anemia, and in two persons with hemolytic anemia, in which red cells are systematically destroyed.

For several years scientists have found erythropoietin in small amounts in the blood plasma, in urine and in milk, but the site of production has not been determined.

Rats receiving .03 liter per day of the extract were compared with rats kept in a decompression chamber simulating an altitude of 15,000 feet. Altitude is one of the most potent factors in stimulating red blood cell production in normal animals. At 15,000 feet the blood picture soon resembles that of polycythemia, a disease characterized by an excess of red cells.

At the end of 14 days the rats fed the extract had a more pronounced polycythemia than the rats in the chamber, demonstrating the potency of the hormone factor.

The scientists, Dr. Donald C. Van Dyke, Dr. Joseph Garcia, Dr. John H. Lawrence and Mary Lou Nohr, hope the factor some day may help in stimulating red cell production in some anemia victims.

Science News Letter, February 8, 1958

GEOPHYSICS

U. S. Launches 30-Pound "Moon"

► ON FRIDAY, January 31, at approximately 10:47 p.m., the United States successfully launched its first earth satellite, the Explorer.

Size and weight: Final fourth stage rocket and the satellite are in one piece, a tube six inches in diameter weighing 30.8 pounds and measuring 80 inches in length.

Launching site: Cape Canaveral, Fla.

Orbit: The satellite's orbit is elliptical, with a maximum height (apogee), according to early data received, of 1700 miles and a minimum height (perigee), 200 miles. Its orbital band lies between the 35th parallels of latitude north and south, covering 125,000,000 square miles.

Speed: Traveling at 18,000 miles per hour, the satellite circles the earth once every 113 to 114 minutes. It spins on its own axis at 700 revolutions per minute.

Signal: The satellite contains two transmitters sending out a "musical series of tones" at 108 and 108.03 megacycles.

Instrumentation: Detectors for reporting meteorites, a Geiger counter and microphone are included among the satellite's 11 pounds of instruments.

Science News Letter, February 8, 1958



THIN SPARE—Perma Spare, a 30-pound, one and a-quarter inch spare tire designed to fit in a shallow recess in the trunk floor of an automobile, is expected to give engineers more latitude for design. It is a thin steel disc flanged by a rim of solid rubber and has been introduced by the Firestone Tire and Rubber Company.