

VETERINARY MEDICINE

Blood Disease Like Rh Trouble Found in Dogs

► A BLOOD disease like the Rh trouble that affects human babies has been produced in puppies by the same process of antagonism between the blood of the parents that causes the trouble in human offspring.

The cases of the puppies, one of them with jaundice such as develops in human babies with Rh trouble, is reported by Drs. Lawrence E. Young, Donald M. Ervin, Richard M. Christian and R. Wendell Davis, of the University of Rochester School of Medicine, in the journal, *SCIENCE* (June 24).

The mother of the puppies had blood which was Do-negative, on the basis of the scientists' grouping of dogs' blood. She was given transfusions of dog blood cells that were Do-positive. Then she was mated to a Do-positive male. The mother was "mostly pointer" and the father "mostly German shepherd".

Four of the puppies were Do-positive and these were the ones with the blood disease. The other four puppies of the litter were Do-negative and showed no sign of the blood disease.

One case of the blood disease occurring naturally in dogs, newborn dachshunds, has previously been reported. The Rochester experience is believed the first in which the disease was produced by previous transfusion to the dog mother. Better knowledge of the disease as it occurs in human babies may result from further studies with the dogs.

Science News Letter, July 23, 1949

CHEMISTRY-BOTANY

Cheer Up, Bachelors! 2,4-D Poisons Mistletoe

► NOTE for determined bachelors: mistletoe, which will develop its dangerous properties six months hence, may be killed now with 2,4-D and its newer companion weedicide, 2,4,5-T.

Information on this newest use of weed-killing chemicals comes from two sources, the Forestry Commission of New South Wales, Australia, and the U. S. Department of Agriculture in Washington.

To be sure, the scientists of the two organizations are not especially interested in discouraging Yuletide romance—most of them are married already. What they are concerned about is saving trees from the sap-sucking activities of various species of mistletoe; for this popular Christmas "green" lives as a parasite on the branches of trees, often stunting their growth and in extreme cases even killing them.

An Australian scientist, D. Hartigan, reports that he has had some success with 2,4-D and related chemicals in attacks on species of mistletoe parasitizing valuable eucalyptus trees. The clumps of mistletoe were browned and withered within three

weeks after spraying, while the trees showed no damage.

In this country, states L. W. Kephart of the Department of Agriculture, 2,4-D and 2,4,5-T are being used in efforts to clear Oklahoma rangelands of scrub oak that has taken possession. Field workers have reported that mistletoe clumps on the branches of these small oak trees succumb to the poison sprays more readily than do the oaks themselves. In this case, both the host-plant and its parasite are weeds, so that the differential effect does not mean much. However, if it proves possible to kill mistletoe without harming more valuable trees on which it grows, this discovery may eventually be significant in the care of street and park trees in mistletoe-infested regions of this country.

The fact that the chemical sprays can harm or kill mistletoe without apparent damage to its host-trees seems to be due to the one-way traffic that obtains in the parasitic life of the plant. Mistletoe sucks sap out of its host-tree but gives nothing in return. Hence it is unable to transmit into the tree any of the poison that is killing it.

Science News Letter, July 23, 1949

ORNITHOLOGY

Bird-Brained Birds Get Drunk or Save Rock "Nuts"

► TO ERR is more than just human. Birds, it seems, make mistakes, some of them remarkably like human failings.

Austin L. Rand, curator of birds at the Chicago Natural History Museum, calls the bird boners "maladaptations."

Here are some of them:

Drunken robins, which may become "utterly fearless and perhaps a bit belligerent," get that way from feeding on the berries of the Tartarian honeysuckle. A few dead robins have been found near the shrub, probably poisoned by their berry diet.

Birds which store supplies of food may get more credit from humans than they deserve, some observations have indicated. The California woodpecker saves acorns in holes which he drills in trees. But when the acorn crop fails, the bird still keeps up his storage activities, putting useless pebbles in the holes. Another conserving bird which might have delighted old Ben Franklin was a captive raven which attempted to store small fish by pushing them through a knothole in its cage. Only difficulty was that the fish fell out of the bird's reach when thus stored.

And a scientist in Africa once discovered that birds that lay their eggs in other birds' nests aren't always very careful. The egg of a honey-guide bird was found in the nesting hole of a little barbet. If and when the egg hatched, it would have been impossible for the nestling to get out of its much-too-small home.

Science News Letter, July 23, 1949

IN SCIENCE

ZOOLOGY

Darwin's Theory About Giraffe's Neck Challenged

► DARWIN was wrong about the giraffe, declares a London newspaperman-naturalist, Chapman Pincher of the *DAILY EXPRESS*. It got its long neck, not through the necessity for reaching upward into treetops for food but through having to stretch downward to ponds and streams to get water, he holds.

Mr. Pincher believes that the giraffe started out by evolving extra-long legs as a response to constant danger from lions and other beasts of prey. The longer the legs the more easily it could escape; present-day giraffes can work up a speed in excess of 30 miles an hour without trying very hard. In its case, as in that of other hoofed animals, survival of the fit meant survival of the speedy.

As its forelegs grew longer and longer, it became necessary for its neck to grow longer, too, so that the animal might drink, argues Mr. Pincher. He points out, also, that giraffes often reach downward to feed on grass, as well as upward to feed on tree leaves.

The giraffe's nearest relative, the okapi, has rather long forelegs and a correspondingly long neck and feeds exclusively on leaves, Mr. Pincher admits. However, he counters, the okapi lives in dense forests, where there is nothing to eat but leaves. Therefore, he contends, his long-neck-because-long-legs argument still holds good.

Mr. Pincher's theory of giraffe evolution is proposed in the journal, *NATURE* (July 2).

Science News Letter, July 23, 1949

CHEMISTRY

Shipboard Factory Makes Weed-Killer for Sweden

► SWEDEN'S relatively modest needs for a chemical weed-killer are being satisfied by the product of a British factory. But the factory is not in Great Britain; it is in Gothenberg, Sweden. After it has done its work it will go away again.

Answer to the riddle is that the factory is aboard a 600-ton ship that crossed the North Sea and anchored in Gothenberg harbor, prepared to do business. It brought British chemists along on board; additional Swedish workers were hired in Gothenberg.

The product, known to chemists and agriculturists as Phenoxyene, kills ordinary weeds but does not affect grains or most other grasses. Its action is similar to that of 2,4-D, much used in the United States.

Science News Letter, July 23, 1949

THE FIELDS

ELECTRONICS

Television Will Be Usable In Ultra-High Frequencies

► PRESENT day television receiving sets will be usable when ultra-high frequency broadcasting comes into use, a probability of the near future, by use of a new television converter designed by Stanford Research Institute, Stanford, Calif. It is an electronic "step-down" device.

This small device can be used with any standard television set to make it possible to receive signals from stations operating within the ultra-high frequency region, according to Dr. J. E. Hobson, director of the Institute. It is described as an electronic circuit which steps down the ultra-high frequencies to the frequency range for which the present standard models are intended. Present bands assigned to television extend from 54 to 216 megacycles; new bands for probable assignment will be much higher.

This converter has been designed in three types; one for fixed frequencies of 530 megacycles, another tuneable over the 475 to 675 megacycle range, and a third tuneable over the 475 to 890 range. The third is not yet ready for production, but is in experimental use.

The rapid growth of television makes the assignment of new transmission bands essential. The present radio frequency range available to television, from 54 to 216 megacycles, permits the use of only 12 channels. This limits to 12 the number of television transmitting stations operating in any given area.

At the present time, a great deal of experimentation is being carried on with ultra-high frequencies. It is expected that the United States controlling office, the Federal Communications Commission, will soon authorize new channels in the region of 475 to 890 megacycles, and a number of experimental stations are already in operation within this band.

Science News Letter, July 23, 1949

ENGINEERING

New U. S. Standards List Of 1,124 Now Available

► AMERICAN Standards, 1,124 in number and covering specifications for American products to protect consumers, are included in a new list issued this month by the American Standards Association. More than 140 have been added since the beginning of the year.

The list is available to those interested without charge. In it are standard specifica-

tions, methods of test, building requirements, safety codes, definitions and terminology in all fields of engineering as well as for materials and equipment used by the ultimate consumer. All of these have been given the status "American Standard" through the procedure of the association which assures all groups concerned an opportunity to have a voice in their development.

The American Standards Association, with headquarters at 70 East 45th Street, New York, is a federation of national groups dealing with the standardization of products. Through it, government, industry, labor and consumer work together to develop mutually satisfactory national standards. It acts also as the authoritative channel for international cooperation in standardization work.

Science News Letter, July 23, 1949

ARCHAEOLOGY

Archaeologists Find Ancient Gambling Joint

► A RAID on a popular gambling hell has been conducted by a group of very staid University of California archaeologists.

Not the moral dander of the scientists was aroused; their interest was purely academic.

The chance to find out how a bunch of slick prehistoric crap-shooters operated was too much of a temptation. There haven't been any boys in this back room for a considerable number of centuries. The proprietors folded, probably before the white man came to America.

Franklin Fenenga and Francis Riddell, archaeologists of the California Archaeological Survey, report that their gambling hell is Tommy Tucker Cave, 200 feet up the side of a slope in Lassen County, near the Nevada line.

Artifacts include more than 800 short wooden counting sticks and dice of the primitive Indian gamblers. The dice are of a kind which no modern crap-shooter would recognize. They were split sections of cane, with one side flat, one side round. They were tossed in a basket; betting was on how many would come up round, how many flat.

A knotted, curved sagebrush stick heavily wrapped with bark at one end—an instrument remarkably suited for breaking heads—gave rise to speculation by the archaeologists that a bouncer may have been needed. A "mural" on the wall, containing a series of pictographs, undoubtedly gave the "joint" the proper atmosphere.

The artifacts indicate that the cave was used for a long period of time, one kind of game succeeding another in popularity.

The cave is situated in territory occupied in historic times by Indians of a Northern Paiute band, the Wadadokado.

Science News Letter, July 23, 1949

AERONAUTICS

Jet Fighter Has Radar Nose Replacing Air-Intake Prow

► A RADAR nose replaces the air-intake front of the fast jet-propelled F-84 Thunderjet in a modified airplane now making flight tests, it was revealed by Republic Aviation Corporation, Farmingdale, N. Y. The radar nose is capable of housing equipment for seeking out and intercepting enemy bombers, company officials state.

Side inlet ducts for air-intake replace the former opening which was directly centered on the plane's nose. In the position adopted, they are found to give the desired flow characteristics and pressure recovery, at the same time providing ample room for equipment installations with a minimum change in both structure and aerodynamics characteristics.

This is one in a series of company developments carried out in conjunction with its own experimental and research program, and it should not be construed that the Air Force intends to install this new type nose on present or future F-84s under contract, the company asserts. However, the Air Force has just revealed a new version of the Thunderjet, which will be known as the F-84E, already in production by Republic.

The new version has a 25% increase in pounds thrust, over 50% increase in range, and a service ceiling of over 45,000 feet, or 5,000 feet more than the present model. The nose section of the fighter has been lengthened 15 inches to provide more room for the pilot, and a new cabin pressurization and air-conditioning system will provide pilot comfort.

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VETERINARY MEDICINE

Somersaulting Chicks May Lack Vitamin E

► BABY chicks that turn somersaults and walk backward instead of in the normal forward direction are not necessarily training for careers in Hollywood or on the television stage. There's a fair chance that what ails them is a lack of vitamin E in their diet, Dr. Erwin L. Jungherr of the University of Connecticut told the meeting of the American Veterinary Medical Association in Detroit.

Poultrymen call the condition "crazy chick disease". Less spectacular symptoms are a tendency to fall over on one side, and a general incoordination of movement. It can happen even to chicks getting enough vitamin E, if their rations also contain food elements that destroy the vitamin in the body. Moreover, certain toxic chemicals, notably coal tar derivatives, can produce symptoms that may be confused with vitamin E deficiency.

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