ZOOLOGY

Kangaroo, Pursued by Jeep Hops at 25 Miles an Hour

➤HOW fast can a kangaroo travel, by putting his tremendous leaps end to end?

Lt. Col. Anselm Keefe, Army chaplain now assigned to duty in the War Department after three and one-half years of service in the Pacific area, can answer that one. It's 25 miles an hour—if the kangaroo is scared enough. He knows, because he clocked a kangaroo himself, chasing it down the road in a jeep.

It happened while Col. Keefe's outfit, a medical unit, was in northern Australia, before Gen. MacArthur's big push up through the islands began.

"We were driving along a road with a high wire fence on either side when we came upon a mob of kangaroos," he relates. "The females promptly jumped over the fence to safety, but one big buck kept going right on down the road, as fast as he could jump.

"In civil life I'm a biologist, so I was curious to see just how fast the animal could travel. I told my driver to keep as close to him as he could, without danger of running into him, while I watched the speedometer. The indicator was holding steady at 25 miles an hour, when our kangaroo saw a small herd of horses in the pasture on the other side of the fence. With a 35-foot leap, he landed in the midst of them, where he knew from past experience he would be safe."

Science News Letter, November 3, 1945

BOTANY

Java Botanical Collections Little Damaged by Japs

➤JAPANESE occupation of Java did not cause any serious damage to the great collections of tropical plants, libraries on the plant sciences and other botanical installations in the Buitenzorg area, headquarters for the study of botany and its application in the Netherlands Indies. Correspondence received by Dr. Frans Verdoorn, editor of *Chronica Botanica* and Advisor to the Board for the Netherlands Indies, indicates that the Japs did not even carry off any of the scientifically valuable pressed specimens from the herbarium at the Buitenzorg Botanic garden.

The scientific staff, however, did not fare so well. Dr. C. G. G. J. van Steenis, well-known research worker on the botany of the Malayan region, tells of having been alternately interned and released during the war period. Six of the staff scientists are known to be dead, and the fate of several others is still unknown.

Despite the vicissitudes of his treatment at the hands of the enemy, Dr. van Steenis kept at his work as well as he could. He writes Dr. Verdoorn that he has almost completed a cyclopedia of botanical collectors, and also a book on Malaysian plant life, besides finishing several shorter scientific papers.

Science News Letter, November 3, 1945

PLANT PHYSIOLOGY

Chemicals in Soil Needed Around Peanut Plants

➤ PEANUTS burrow into the ground instead of developing on the branches of the vine as do the pods of most other legumes because the developing goober requires immediate contact with the nutrient chemical elements in the soil, Dr. L. D. Baver and a group of research associates at the North Carolina Agricultural Experiment Station have discovered.

The peanut has one of the strangest modes of growth of any crop plant. It belongs to the legume family, like peas and beans, and the nut is actually more like a pea than it is like a nut, so far as anatomical structure is concerned. The flowering stem that eventually produces the peanut starts on the vine, above ground, but it grows long and thrusts itself into the soil, where the peanut develops. This peculiar stem is known technically as the "peg."

In the experiments, the objective was to find whether the developing peanut required immediate contact with the soil, to obtain something it could not get indirectly through the sap stream from the roots. Peanut vines were grown with their roots in troughs of soil, duly supplied with fertilizer salts. The pegs were not permitted to sink into the same soil, but were given other soil in separate troughs, with different concentrations of the fertilizer elements.

It was found that for proper development the young peanuts required immediate contact with soil well supplied with lime. If the soil surrounding both roots and pegs was deficient in calcium, the kernels failed to develop, and most of the pegs produced hollow shells. When calcium was added to the soil around the roots only, it failed to have any effect on the nuts, but when it was added also to the soil around the pegs, the peanuts grew normally.

Science News Letter, November 3, 1945

IN SCIEN

CHEMISTRY

Penicillin Is Antitoxic As Well as Germ-Checker

➤ PENICILLIN gains new stature as a remedy against infectious disease as a result of studies reported by Dr. Alden K. Boor and Dr. C. Phillip Miller, of the University of Chicago. (*Science*, Oct. 26.)

The mold chemical has an antitoxic effect as well as the power to stop the growth of disease germs and even kill them. Doses of penicillin, the scientists found, can save mice from death that usually follows injections of the poison produced by one strain of meningococci, germs that cause meningitis. Although this poison kills 89 out of 100 untreated mice, only 33 out of 100 given the poison and treated with penicillin died.

The penicillin did not detoxify the meningococcus poison when mixed with it before injection, however. The scientists are now trying to find whether the detoxifying effect in the animal's body is due to penicillin or to some impurity in commercial preparations of it.

Science News Letter, November 3, 1945

ENTOMOLOGY-GEOLOGY

Florida Limerock Found Good Insecticide-Carrier

➤FINELY ground Florida limerock is found to be an excellent insecticide carrier, or diluent dust, and may be used for DDT, it is now revealed by the University of Florida where extensive tests have been made by its engineering and industrial experiment station. There is no chemical reaction between it and the DDT, even when they are heated together in the presence of water vapor at 100 degrees Centigrade for several days.

Dusting powders containing insecticides are widely used to control crop pests, particularly where wet sprays are less satisfactory. The dust used must be a gritless type that is inert to the insecticide and harmless to the vegetation. Florida has large deposits of a soft variety of limestone, which when ground is easily freed from grit, and which seems especially suitable for a DDT carrier. Samples of the dust may be obtained from the station.

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CE FIELDS

AERONAUTICS

New Martin Transport Faster Than Prewar Liners

➤ DESIGNED for low-cost operation on continental airlines, the Glenn L. Martin Company's new commercial transport, the 202, is expected to cruise at 250 miles an hour, nearly 100 miles an hour faster than prewar twin-engined airliners.

Looking much like Martin's famed B-26 medium bomber, the 202 will be powered by two Pratt-Whitney radial engines capable of maintaining an altitude of 16,000 feet on one engine. The absolute ceiling with both engines is expected to be 30,000 feet. The low-winged, single-ruddered liner will be equipped with tricycle landing gear and reversible propellers, facilitating short takeoff distances and low landing speeds with a maximum of safety.

Servicing time will be cut down considerably by the installation of panels, opening like bomb-bay doors, to provide easy access to the radio, electrical and hydraulic systems. Particular attention has been given to passenger and crew comfort. Newly designed adjustable seats, indirect lighting and soundproofing, as well as advanced heating and ventilating systems, are expected to minimize travel fatigue.

In addition to the 30 passengers, the 202 will carry a crew of three.

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ORDNANCE

Anti-Aircraft Artillery Saved Antwerp From Buzz-Bombs

➤ HOW accurate and effective modern anti-aircraft artillery fire has become is disclosed for the first time in the story of how the port of Antwerp was saved from a buzz-bomb barrage, told by Capt. A. R. Dallmeyer, Jr. (*Coast Artillery Journal*, Sept.-Oct.)

A year ago, after the Allies' rush through northern France and Belgium had resulted in the capture of Antwerp without giving the Nazis time to wreck it before retreating, this port became the one great door through which supplies flowed to the armies attacking Germany on the west. Unable to attack it with bombers, the Nazis started a heavy and persistent effort to knock it out with V-1 buzz-bombs.

Defense, organized by Brig. Gen. Clare H. Armstrong, was entrusted entirely to anti-aircraft artillery, primarily American 90-millimeter and British 3.7-inch rifles. An eight-mile circle was drawn around the port, and a dense concentration of these heavy guns, together with necessary detection and fire-direction instruments, was set up to stop anything approaching it through the air. No barrage balloons or intercepting fighter planes were employed; everything depended on the guns.

Between late October 1944 and March 1945 a total of 4,883 of the Germans' flying weapons were spotted by the detectors. More than 97% of them were destroyed. Only 211 got into the eight-mile protected circle, and none of these was successful enough to hold up port traffic.

Heaviest casualties, as a matter of fact, were to the artillerymen themselves, from the explosion of crippled buzz-bombs that fell near their emplacements.

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BIOCHEMISTRY

Small Pores Make Good Egg Shells

➤ SCIENTISTS have found that the shell of the average hen's egg has about 8,000 pores or tiny holes in it. However, there is a great variation in the number and size of these pores. The best egg shells are the ones with a large number of small pores—so small that the escape of gases is difficult and evaporation is slow. Poor shells have fewer pores, but several large ones that make evaporation more rapid. Investigators at several experiment stations have demonstrated that these differences in shell quality are inherited.

Dr. A. L. Romanoff of the poultry department at Cornell University has made a detailed study of porosity in eggs and points out that eggs with poor quality shells lose quality much more rapidly than do those with good shells. This, he says, is particularly important at this time since greater attention is being paid to egg quality.

Workers in the U. S. Bureau of Animal Industry at Beltsville found that more broken eggs occur among those with poor shell quality. However, by using the progeny test method of breeding, they were able to improve egg shell quality considerably. Hens were selected as breeders whose eggs showed the least egg weights loss during the first 14 days of incubation.

Science News Letter, November 3, 1945

ENGINEERING

War Barbed Wire Rusts Out In Three Years or Less

➤ BARBED wire made for use in the war has been coated with only a very small weight of galvanizing. Exposure tests for farm fencing, begun by agricultural engineers at Cornell in 1936, included some samples of wires that had light coatings of galvanizing.

Test records of these wires carry a valuable lesson for farmers who are considering the purchase of surplus stocks of war fencing. After six years of exposure on a hill near Ithaca, samples carrying from 0.25 to 0.27 ounce of zinc galvanizing per square foot of wire surface were nearly completely covered with rust. At the same time, 0.28- and 0.29-ounce samples were 57% and 53% rusty, respectively, while 0.30-ounce samples were only 15% rusty, reports Prof. B. A. Jennings.

Tests were made in cooperation with the American Society for Testing Materials.

It is probable, says Prof. Jennings, that the galvanizing on barbed wire made for war use is very much lighter than the lightest on these tested samples, so it is practically certain that such surplus stock wire will be rusted completely in three years or less.

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AERONAUTICS

Removable Cargo Section Speeds Freight Handling

➤ AN AMERICAN of Japanese ancestry, Henry T. Nagamatsu of Cheektowaga, N. Y., has developed a principle of cargo-plane construction that promises greatly to speed the handling of air freight. U. S. patent 2,387,527, issued on his invention, has been assigned to the Curtiss-Wright Corporation.

Instead of unloading and reloading through the conventional side door, which involves holding the plane idle for a long time, Mr. Nagabatsu provides a cargo-holding section that can be detached as a whole and lowered away from the plane on a pneumatic hoist. Waiting for it in a ramped pit below is a truck-trailer unit; the cargo section simply becomes the body of the truck. When this moves off, another truck, with similar cargo section already loaded, takes its place; the section is raised into place and secured, and the plane is ready for immediate flight.

Science News Letter, November 3, 1945