

BIOLOGY

Snakes Moves by Pushing With Its Belly Plates

► X-RAY MOTION pictures taken with a cinefluorographic camera at the University of Rochester reveal what Solomon did not know: how a snake moves.

Dr. James A. Oliver, curator of reptiles of the New York Zoological Society, brought a four-foot, poisonous African puff adder to the University of Rochester's medical school, Rochester, N. Y., where X-ray movies were made of the movements of the reptile as it traveled in a straight line.

Contrary to a popular idea, the X-ray movies showed that the snake did not move by "walking on its ribs." Instead, the snake was seen to crawl along by alternate pushes of the separate plates, or scutes, of skin that line his underside, powered by his strong stomach muscles.

When a snake is in a hurry it uses a different "gait," commonly called "lateral undulatory movement." As it wriggles along its body pushes against bumps on the rough surface of the ground.

Another gait commonly used by desert snakes is side-winding. When a side-winder rattlesnake travels in this fashion it shapes its body into loops and it seems to be moving sidewise.

Science News Letter, January 17, 1953

River water usually is "harder" in winter than in summer.

TV sets too near each other actually can interfere with each other's reception.



X-RAY SNAKE'S MOVEMENTS—Dr. James A. Oliver, curator of reptiles of the New York Zoological Society, took X-ray movies of an adder to show that snakes get where they are going by moving their belly skin plates.

BIOCHEMISTRY

Radiation Exposure Told

► A PRACTICAL, sensitive test for exposure to very small amounts of dangerous rays from atom-smashing cyclotrons can be made by examining the white blood cells called lymphocytes.

Ordinarily these cells have only a single nucleus each. But the radiation from the cyclotron causes a change so that lymphocytes with two-lobed nuclei appear in the blood. Scientists at the University of Rochester's School of Medicine and Atomic Energy Project, Rochester, N. Y., discovered this early in their cyclotron operations.

The finding was confirmed in two "incidents" since then. In one, four physicists were in the cyclotron building when the man at the control panel made certain adjustments that made possible some slight exposure of the physicists to the beam. In the other, two machinists by mistake got within 50 feet of the cyclotron building while the atom smasher was running. This was before an earth and concrete dike around it had been finished.

Lymphocytes with bilobed nuclei appeared in greater numbers than normal in the blood of all six of these persons for a few weeks after exposure to the radiation from the cyclotron.

Increased numbers of white blood cells of this kind may also appear in germ diseases and in leukemia, but the four physicists and

two machinists were not suffering from such diseases at the time their blood showed lymphocytes with bilobed nuclei.

Because these cells appear as a result of exposure to "exceptionally small amounts of radiation," the University of Rochester scientists believe this kind of blood test is a valuable addition to physical monitoring, such as radiation exposure badges.

Reporting the studies in *Science* (Dec. 26, 1952) are M. Ingram, M. Adams, L. Coonan; J. Jespersen, G. Nielsen, D. Piatt and G. Yettewich.

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