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ZOOLOGY

Non-Electric Catfish Respond to Electricity

➤ RECENT EXPERIMENTS on the reactions of certain non-electric fish to electrical impulses are helping scientists solve the evolutionary riddle that led to creation of the remarkable electricity-generating fish.

When an electric field was applied between two electrodes in a tank, an African species of catfish called *Clarias* gave definite responses and proved further some of the hypotheses concerning this strange phenomenon.

Certain fish—such as the electric eel, some African catfishes and some odd-shaped African fishes known as mormyrids—can deliver noticeable or even powerful electric shocks.

Other fish do not generate such strong impulses of electricity, but have weak electric organs and can set up an electric field in the surrounding water, stated zoologists H. W. Lissmann and K. E. Machin of the University of Cambridge, England.

If a nearby object distorts this field, the fish can detect these distortions through its "electric receptors," which are sense organs communicating with the water by means of jelly-filled canals.

These incoming electrical signals are "smoothed" at the receptors before they are coded into impulses in the nerves of the fish.

Recent studies show that the fish *Clarias* is more sensitive to wide single pulses than to direct current, state the zoologists in *Nature*, 199:88, 1963. This suggests that a sensory signal is initiated both by the beginning and the end of the electrical pulse.

By continuing studies on the remarkable sensitivity of this fish, scientists hope to understand more about mechanisms of the electric receptors.

• Science News Letter, 84:52 July 27, 1963

ZOOLOGY

Radioactivity Tells When Animals Leave Home

➤ EVEN PRAIRIE RODENTS have no privacy any more. Scientists are tagging them with radioactive materials to find out how much time they spend away from their nests.

The prairie vole, a kind of rodent resembling stocky mice and rats, spends about three hours a day away from home during winter, Dr. Roger W. Barbour of the University of Kentucky has found. The time outside the nest was divided into 15 activity periods, with an average of 11.7 minutes, all during daylight hours.

The daylight activity is explained by the fact that the zoologist made his tests in winter when nights are cold. Previous studies have shown that this rodent leaves the nest on summer nights.

It was not discovered whether the radioactive tag affected the animal's behavior.

Dr. Barbour reported his findings in *Science*, 141:41, 1963.

• Science News Letter, 84:52 July 27, 1963

Questions

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TECHNOLOGY—Where do compact cars take up the same space as big ones? p. 53.

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