

MEDICINE-ZOOLOGY

Shrews Aid Malaria Fight

Medical research is expected to benefit from the discovery that elephant shrews, 104 of which have been imported from Africa, are susceptible to this disease.

See Front Cover

➤ NEWEST reinforcements in science's war against malaria are 104 elephant shrews, which have just been installed at the National Zoological Park in Washington, after a fast air journey from their home on the upper Nile, in the Anglo-Egyptian Sudan. They are the size of big mice, and get their name from the long, flexible, rubbery tips on their nervous little exploratory noses, as shown on the cover of this week's SCIENCE NEWS LETTER.

Their great value to medical research lies in their susceptibility to malaria, and to the fact that they are small and not too hard to feed. Insect-eaters in their wild state, in captivity they have taken readily to a diet of oatmeal porridge, chopped hardboiled eggs and finely ground meat.

Malaria susceptibility is rare and spotty among mammals, so that the discovery that elephant shrews can have the disease marked them as desirable research material. The Navy sent a small group of scientists to Africa as part of the University of California expedition now there under the leadership of Wendell Phillips.

The animals were captured in snares

by natives near the settlements of Torit and Kapota, and were brought out by a three-man team: Chief Pharmacist's Mate Deaner Lawless and Messrs. Trenten Ruebush and William Terry. The 8,500-mile air journey, with one stop at Fort Lyautey in northern Africa, did not seem to bother the shrews at all.

They were caged in pairs for the journey. Shrews are cannibalistic and had numbers of them been caged together, there would not have been as many at the end of the trip as there were at the start. But a male and female traveling together do not try to chew each other up.

First steps in research on the elephant shrews were made in the Zoo's laboratories by Dr. Clay Huff of the Naval Medical Research Institute. Dr. Huff is examining samples of the animals' blood to find the species of malaria parasites with which they may be infected. He will try to transfer these to commoner and cheaper experimental animals such as mice, rats and hamsters. An effort will also be made to get the shrews to breed in captivity, thereby obviating the need for further expensive importations from Africa.

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of the Dominion Agricultural Department, Ottawa, in a discussion of possible guides to bird migration. Steering by the stars is possible; but there is the difficulty that birds often fly long distances when stars are hidden by dense overcast. Steering by winds will hardly do, Dr. Savile points out, because winds are variable in both direction and force. Effects of the earth's rotation on gravity as perceived by the sensitive balancing organs in birds' ears are possible—but not proven.

Dr. Savile points out that birds' homing instincts—that is, their ability to find their way back to their nests—are not necessarily connected with their sense of direction on long migratory flights. There is fair evidence that homing birds rely on recognizable landmarks; but on most migratory flights the young birds, which have never made the journey before, fly first—and they keep as true a course as their elders who follow them.

Both scientists agree that before very positive opinions about bird migrations can be put forth with much confidence it will be necessary to get far more information than we have at present. Dr. Savile suggests following migratory flights with airplanes or radar, at least for the first few hundred miles.

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ORNITHOLOGY

Magnetism No Guide

➤ BIRD migrations are not guided by the earth's magnetic field, as has recently been suggested, in the opinion of Prof. G. H. Henderson of Dalhousie University at Halifax, N. S. Serving on a mine-sweeper in Canadian waters during the war, he had many opportunities to watch birds exposed to intense magnetic fields set up by the vessel in its search for enemy mines, and he reports that the behavior of the birds was not affected in any way.

Prof. Henderson states in *Science* (June 4): "If birds were guided in their navigation by geomagnetic phenomena, it would be expected that their behavior would be affected when they flew within

several hundred yards of mine-sweepers. Yet nothing of the sort has so far been observed with such migratory birds as herring gulls and ducks or with non-migratory birds . . .

"When present, birds appeared to be supremely indifferent to magnetic fields, even at the sudden beginning of magnetic pulsing. A sweeper might pass close to a group of gulls or ducks sitting quietly on the water, yet they would completely ignore any surprise which man might provide, except for food. Again, a flight of ducks might pass over the sweep with no sign of a tailspin!"

Prof. Henderson is joined by another Canadian scientist, Dr. D. B. O. Savile



BABY PENGUIN—Hiding under its mother's flipper, this new Humboldt penguin is five inches long and the first to be hatched at the National Zoological Park in Washington in ten years.