ZOOLOGY

Pedigreed Frogs Anyone?

➤ PLANS to breed "pedigreed" frogs for scientific research have been detailed by a University of Michigan zoologist.

Dr. George W. Nace announced his intention to build the first amphibian facility in the Western world for breeding frogs and toads. A cooperative project with Hiroshima University in Japan, the facility is aimed at maintaining tens of thousands of amphibians, each with a well-documented genetic background.

Most of the frogs now used in research are caught by commercial suppliers in bogs and swamps, parentage unknown, and shipped to scientists. But without knowledge of the frog's genes, scientists cannot do the very precise work necessary in much medical and chemical research.

Moreover, because of pesticides and land reclamation projects, the supply of swamp frogs is dwindling.

Dr. Nace told members of the Animal Care Panel at a meeting in Chicago that the amphibians will be useful as screening animals in the study of drugs and biological chemistry. It is impossible to get enough pregnant mice all of the same strain for testing the effect of a drug such as thalidomide on embryos, he said.

But one frog produces some 3,000 offspring.

Also the animals will aid genetic studies. Frog eggs do not need to be fertilized to develop. A simple pin prick will start the process. Consequently, scientists can study animals with only a maternal inheritance and learn something about recessive genes.

Another area of study concerns the effects of an egg's surrounding fluid (cytoplasm) on the developing organism. With frogs, the nucleus of one egg can be transplanted to the cytoplasm of another. The result: new data on just how influential the maternal environment is in an embryo's development.

Dr. Nace, who has already raised several generations of frogs, will be supported in his future facility by the National Science Foundation and the Japanese Government.

He also plans to exchange animals with Japan's "frog scholar," Dr. Toshijiro Kawamura, president of Hiroshima University.

PHYSIOLOGY

Altitude No Handicap

➤ ATHLETES competing in the Olympic Games at Mexico City in 1968 will not have to acclimatize themselves with high altitude training beforehand, according to a Mexican scientist. They will need only two or three days in the Mexican capital to adjust themselves to the rarefied atmosphere 7,500 feet above sea level.

Prof. G. Ruiz-Reyes, professor of hematology at the University of Puebla, Mexico City, told a hematology conference at Sydney University, "In my opinion, there is absolutely no need for athletes to do preliminary high-altitude training or engage in such acclimatization gimmicks as training in low pressure chambers.

"Two or three days in Mexico City is all that is necessary to adjust their systems to height.

"Like most visitors they will feel a little tired at first but there will be no problems of respiration."

Prof. Ruiz-Reyes said that residents of Mexico City had larger hearts and more red corpuscles than people living at sea level.

He denied, however, that this would put Mexico City athletes at an unfair advantage over athletes from lower levels.

"Sportsmen of all kinds are continuously visiting Mexico City to compete with our sportsmen," he said. "They never bother with preliminary high altitude training and just as often beat our men."

World renowned sportsmen such as Ron Clarke, Australia's record holder, and former British mile champion Dr. Roger Bannister, have protested strongly against the Games being held in Mexico.

They claim that holding the Games at such a height will place too great an adjustment strain on the constitution of most athletes.

The Caribbean Games, which were held in Mexico City several years ago, attracted athletes from all over South America, including many low-lying areas, Prof. Ruiz-Reyes said.

"Apart from a few days adjustment in the city itself, they did not bother with high altitude training.

"But we Mexicans are not aggressively athletic, we have only distinguished ourselves in high diving and horse jumping at previous Games."

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