

## Accused researcher fights back

About three years ago, a Boston University research unit was dropped from participation in a large collaborative cancer research project, and its reported data were expunged from the records of the Eastern Cooperative Oncology Group after falsifications in patient records were discovered. Researcher Marc J. Straus, who headed the unit, and several col-

leagues were asked to resign after the university examined charges of data faking. Straus moved on to the New York Medical College at Valhalla, where he later received another cancer research grant. The controversy surrounding events at B.U. and Straus's second grant has, over the past year, attracted increasing attention as several other cases of data falsification and plagiarism have been uncovered (SN: 5/23/81, p. 331). The Boston Globe ran a five-part series on the Straus affair last summer, and the episode is being investigated by the National Institutes of Health.

## Ready clone: Zebra fish by the hundreds

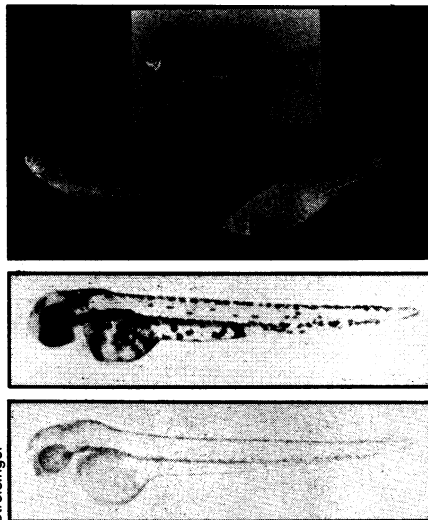
Hundreds of genetically identical zebra fish are being raised by biologists at the University of Oregon. These clones of the popular aquarium fish are expected to allow scientists to do more powerful genetic analyses than has been possible with any vertebrate.

The key to the production of these clones is fish with two identical sets of chromosomes. George Streisinger and colleagues get such homozygous fish by activating eggs with genetically impotent sperm. They then allow the single set of egg chromosomes to replicate while the cell is prevented from dividing. The adult resulting from such an egg has two identical sets of chromosomes in each cell and the same single set in any egg or sperm. Therefore, if the procedure is repeated on the eggs of a homozygous female all the offspring are genetically identical. A clone of up to 200 fish can be obtained in this way.

A similar, but much more cumbersome, strategy has been used to create homozygous mice (SN: 7/28/79, p. 68). One set of mouse chromosomes grouped in a pronucleus immediately after fertilization must be removed by delicate surgical techniques. In the work with fish the infertile sperm provide no genetic material and the only manipulation necessary is a heat shock or period of hydrostatic pressure to prevent cell division immediately after the chromosomes replicate. Once established, a clone of zebra fish can be maintained by normal sexual reproduction.

Most of the clones are made up predominantly of females, but males can be created hormonally. Exposure to male hormone for two weeks beginning one day after fertilization yields a group in which the majority of fish produce functional sperm. Little is currently known about the genetic basis of zebra fish sex determination, and the researchers were surprised to find that some clones naturally are predominantly male.

The Oregon scientists now have 55 separate clones of zebra fish. Some contain a few individuals with characteristic physiological abnormalities, demonstrating that some deleterious genes do not affect every homozygous individual.



Clones of zebra fish make genetic mutations easily visible. Top adult is a normal zebra fish, about 3 centimeters long. Other adults show pigmentation mutations. Embryos (3.8 millimeters long) three days after fertilization already show pigment differences between normal (upper) and mutant fish.

The advantage of homozygous fish for genetic experiments is that even a recessive mutation, which would normally be masked by the gene on the other chromosome, is immediately obvious in the homozygous individual. Streisinger and colleagues are currently studying mutations that change the pigmentation of the zebra fish. But they plan to devise behavioral tests involving feeding to find genetic abnormalities of the visual system.

In the May 28 NATURE the scientists suggest that similar genetic methods may be applicable to such edible fish as trout, salmon and catfish. "In analogy with common agricultural practice, it may be possible to maintain clones for the generation of high-yield hybrid lines for harvest," they say. But they warn that any clone contains only a very small fraction of the genes found in the entire population, so, should such fish farming become widespread, it will be crucial to preserve large fractions of the natural populations in their natural environment. □

Last week, three days after a Senate committee criticized National Cancer Institute director Vincent T. DeVita for the agency's handling of Straus's second grant application, Straus made his first public statement about the subject before the President's Commission on ethics at a Boston hearing.

The allegations that he had faked research data while at B.U. are "absolutely false" and "maliciously made," Straus told the Commission. By his account, the records were falsified to discredit him after he had placed research fellow Robert J. Polackwich on disciplinary probation and attempted to fire a nurse in the unit, Mary Jane Rimmer, for poor performance. Straus had been attempting to improve recordkeeping and standards for the project from the time he had taken it over and had met with resistance, he said in Boston.

Straus urged the Commission to recommend that some procedure for reviewing allegations against researchers "by a properly empowered blue ribbon panel, which will conduct a full evidentiary hearing under oath," be established, saying he has not in three years been given a fair hearing by his scientific peers despite repeated efforts to obtain one. An issue "of monumental importance," Straus said, is providing safeguards for scientists confronted with such allegations, whose careers could be ended by unproved, untrue charges.

Later in the day, Straus took another step in his effort to refute the charges leveled at him in 1978—he filed suit in federal district court against five other former colleagues.

A complaint charging "interference with contractual and advantageous relations, and conspiracy" asks for \$3 million in damages for each of three counts from physicians Polackwich and Gregory Medis and nurses Stephanie Richards, Rimmer and Silvia Dias, according to Straus's lawyer Andrew Good, of Boston. □

## Cancer institute under scrutiny

Congress, along with the President, has decided that the National Cancer Institute budget should exceed \$1 billion annually, but it also has the authority to examine how NCI spends those funds and to make the agency change its spending procedures if there are indications of mismanagement. And there have been indications of such abuse during the past several years. For instance, each time an auditing group reviewed NCI contracting in the past three years, it discovered lax surveillance of contracting, cozy relationships with contractors and tolerance of apparent fraud. The most blatant example of this could be found in NCI awarding a \$910,000 research grant in March 1980 to a scientist — Marc Straus — who had been