

Biologist studies ecology links of Saint John River

Billions of bacteria form the first link in the ecology chain of the St. John river. Until now, very little systematic information had been gathered on these cold water micro-organisms. Since it has been observed that changes in the bacterial populations occur as their environment fluctuates, a system for recognizing groups of bacteria can be evolved.

An exact method of measuring these population changes by means of numerical taxonomy is being developed by Dr. Maxine Holder-Franklin of UNB's biology department. Recipient of a \$32,500 grant from the department of environment, Holder-Franklin is identifying and comparing groups of bacteria using this method.

Conceived in theory during the 18th century, numerical taxonomy was impossible to implement until the advent of the computer. Simply stated, numerical taxonomy is a technique by which a series of equally weighted tests are applied to a variety of bacterial samples

and the results compared and tabulated by computer.

A visual print-out yields a profile of clusters of symbols, which by comparison with other clusters indicate distinctive populations. These clusters appear in different proportions under different conditions.

As many as 250 tests are presently being applied to 1,000 strains taken from samples across the river's surface. The number of different identifiable strains to be subjected to tests will soon be increased to 2,000.

The grant money covers expenses for equipment, supplies and salaries for a year of intensive study.

Holder-Franklin is concentrating on an assessment of the populations of aquatic (water), aerobic (oxygen demanding), heterotrophic (organic compound metabolizing) bacteria found above and below the McCain food processing plant at Florenceville. Her study is specifically aimed at measuring

the effects on the bacterial populations of added organic nutrients to the environment above the mill compared to that of below the mill.

The organic nutrients are in the form of effluents from food processing after primary treatment and municipal waste outflow. The data fed to the computer reveals on the visual print-out, the shifts in populations in relation to the environment.

One interesting observation brought out by the study so far is that strains of bacteria barely discernible during the warm summer months, experience a population explosion in the winter. Cold, icy conditions actually seem to stimulate a growth in certain strains characterized by slow metabolic rates but efficient in utilizing organic compounds.

The computerized data derived by using numerical taxonomy will eventually be compared with data from other studies to come up with

a comprehensive accurate method of measuring minute changes in the microbial environment of New Brunswick rivers. These findings,

not only of scientific interest, may prove valuable to industry and those concerned with protecting the environment.

Justice Ryan to speak

Federal appeal court justice William Ryan will speak Oct. 30 on "Lessons learned as a law reformer" at the University of New Brunswick in Fredericton.

The presentation will constitute the first Viscount Bennett Memorial Lecture and will be held in Ludlow Hall room two at 8:00 p.m. The lecture is to become an annual event open to the public.

Justice Ryan, UNB law dean from 1966-71, was one of the first full time members of the four-man federal law reform commission until 1974 when he was appointed to

his present post. Formerly a member of the Bank of Canada board of directors, he was also chairman of the federal advisory board on adult occupational training of the Canada manpower and immigration council and provincial industrial relations council co-chairman.

He practised law in Saint John until 1950 when he joined the UNB faculty.

Viscount Bennett, a former Canadian prime minister who was given an English peerage and sat in the House of Lords, left funds in his will to New Brunswick.



Photo by Jerome Kashetsky

Engineering Week kicked off last Monday and the above Mechanical engineering professor took part in the skits and songs that started it all off.

Co-op garage set up

WATERLOO(CUP) - The student federation at the University of Waterloo has set up a new co-op student service - a "do-it-yourself" garage.

The garage will accommodate three vehicles at a time and will be equipped with an axle stand, welding machine, compressor and chain hoist.

Any student can use the garage by paying a \$2.00 per semester fee and signing up for as many time slots as is needed.

The garage cost around \$7,000 to set up, with the student federation paying \$5,000 and the engineering society paying \$2,000.

As well as serving as a student fix-it shop, the garage also houses the vehicle of the Off Road Racing Club.

Indian students announce festival

U.N.B. India Association celebrates 'Deepavali', a 'festival of lights' at 7:30 p.m. in SUB Ballroom (Room no. 201); special attraction: Indian buffet. All are welcome.

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