

BIOLOGY

Actinomycetes Classified

► SCIENTISTS now have a plan to use tiny bacterial viruses to identify and classify the slightly larger actinomycetes—the branching, thread-like microbes that produce most of the medically important antibiotics.

Biologists have long debated whether the actinomycetes are more closely related to the true bacteria or to the true molds. Dr. Selman A. Waksman of Rutgers University in New Brunswick, N. J., awarded the Nobel Prize for his work with streptomycin, believes the actinomycetes are bacteria.

A research team from the University of Minnesota in Minneapolis has found evidence in support of this theory.

Dr. S. Galen Bradley, D. L. Anderson and L. A. Jones reported to the American Institute of Biological Sciences meeting in Stillwater, Okla., that the actinomycetes, like bacteria, are dissolved by lysozyme (an enzyme in egg whites); that they are killed by antibacterial drugs, but not antifungal drugs, and are attacked by agents resembling viruses of true bacteria.

In addition, related actinomycetes are destroyed by the same virus, and this fact is the basis for a new classification-identification system.

This means that if a single type of virus is unleashed on three different types of actinomycetes and attacks only the first two, but not the third, the first two are related.

Thousands of actinomycetes have been isolated in the search for new antibiotics. The naming and grouping of actinomycetes are presently based on color and structure.

There is much confusion under this system, the Minnesota researchers noted. First, interpretation of color differs among biologists. Second, the nutritional state and age of the microbes affect color and structure.

The new grouping system, based on the susceptibility of actinomycetes to bacterial viruses, is expected to eliminate a large part of this confusion.

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Steaks of "Water Fleas"

► MAN IN SPACE may be eating "water flea" steaks as a part of his daily diet.

Dr. John R. Olive of Colorado State University in Fort Collins, attending the American Institute of Biological Sciences meeting in Stillwater, Okla., said the "water flea" *Daphnia* is not really a flea at all but a bed-bug-sized soft-shelled crustacean that looks a bit like a tiny clam.

Grazed on algae pasture, it gains more weight percentage-wise than cattle on regular grass pastures.

Preliminary experiments have shown that a water flea-algae mixture is palatable as soup, either cooked or uncooked. The mixture can also be dehydrated into a paste or into dried cakes.

It has a taste somewhat similar to shrimp, Dr. Olive said. With just a small amount of flavoring, the mixture can be made to taste like eggs or steak.

By adding only monosodium glutamate, a main ingredient in some commercial flavor accenters, the natural shrimp taste is emphasized.

Long-term tests to see whether human subjects can survive on this diet alone have not been performed to date.

Nor have the algae and water fleas been set up in a closed system which uses human waste products. But, Dr. Olive said, studies showed that the water fleas get along pretty well on solid wastes from mice, on brewers' yeast and on horse urine.

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Heart Rates Lowered

► TINY RADIO transmitters surgically implanted in animals or, in some cases, attached to the animal's body with a light harness have broadcast true resting heart rates as much as 25% lower than those recorded as standard.

The older resting rates were obtained by methods that restrained the animals and made them highly excitable, but the new

SOCIOLOGY

Mothers of Schizophrenics

► MANY SCHIZOPHRENIC patients have unwholesome relationships with their mothers, Dr. Victor D. Sanua of the School of Public Health, Harvard University, reported to the annual meeting of the American Sociological Association in New York.

Dr. Sanua presented a paper on the home environment of schizophrenic males from two religious groups, Protestant and Jewish, and of two social classes, lower and middle-upper.

He said some mothers were over-protective. Others were rejecting, domineering or aggressive. The fathers of these schizophrenics were reported as weak, submissive individuals.

In a study of 150 hospital case records of schizophrenic patients in mental hospitals in the Boston area, Dr. Sanua found that the mothers of Jewish patients of low-socioeconomic status appeared to be more disturbed than the fathers.

In the Protestant families of low-socioeconomic status, the father showed more psychological disturbance than the mother.

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Crimes and Criminals

► ONE criminal will commit crimes against persons only; another will commit crimes against property only. Seldom does a person commit both types of crimes, arrest records indicate.

Drs. David J. Pittman, Richard A. Peterson and Patricia L. O'Neal of Washington

method permitted the animals to be tested without restraining wires.

The work, reported to the American Institute of Biological Sciences meeting in Stillwater, Okla., was conducted by Dr. Warren O. Essler under the direction of Prof. G. Edgar Folk Jr. and Prof. Lawrence A. Ware at the State University of Iowa

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BIOLOGY

Americans Grow Taller Now Than 100 Years Ago

► YOUNG MEN and women in the United States today average about two inches taller than those 60 years ago, a study of the heights and weights of adults over the past 100 years shows.

Miss Milicent L. Hathaway and Miss Elsie D. Foad of the Department of Agriculture's Research Service report that the younger generation in college in recent years has averaged about an inch taller than their parents.

The sons weighed five to ten pounds more; the daughters, two to five pounds more. The USDA study also shows that men and women with some college training are taller and lighter than those with only elementary education.

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University at St. Louis, Mo., reported these results to the annual meeting of the American Sociological Association in New York on the basis of arrest records of 88 criminals.

They also studied intensively 19 males and found that the "person offenders" had suffered more from early broken homes, severe rejection and cultural deprivation than did the property offenders.

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"Beatness" Is Apathy

► THE "BEATNESS" of today's beatniks is merely apathy grown self-conscious, Dr. Elwin H. Powell of the University of Buffalo told the American Sociological Association annual meeting in New York.

The rebellion of the "beat generation" represents a shift from radicalism to bohemianism, from active protest against an institutional order to a preoccupation with personal relations, Dr. Powell said.

Where a radical would try to change society, the beatnik revolts by trying to establish an individual identity. This identity he achieves through a refusal to act.

The "beat" cult enables the individual to stand apart without standing for any ideology. All the eccentric expressions of the cult, such as rites, rituals, dress and a special slang, contribute to this feeling of apartness. The use of drugs and religious mysticism may also enhance this feeling.

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