ON GOURAMI NESTS IN A HILL SPRING AND A ROCKY GUNDAM

WITH the scanty rainfall and sparsely scattered waters, acquiculture in the Ceded Districts has to be confined to a limited number of suitable waters. The Nalla malai area in Kurnool is dotted with many natural springs and rocky tanks. Attempts at Gourami culture in such waters were successful, and some interesting observations could be made on gourami nests in a typical hill-spring and a rocky "gundam".

The Chagalamarri spring off Nandyal-Cuddapah road was stocked with half a dozen one-foot gourami in November 1944, and *Chara* and Bulrush were planted in the centre and along the margins respectively. In June 1945 two nests were observed in a quiet corner, away from the springs and the main flow. The location of the nest outside the action of the current is not perhaps accidental.

The "Kamini gundam" at Panyam is a fairly large tank. The "gundam" was devoid of macrophytic growth, specially after de-weeding. Even the margin was bare except for some short grass. Yet, on 10th of March 1946, a big-sized nest, made up of neem and bombax leaves, with gourami eggs was seen drifting on the surface. Careful observation revealed that the parents closely followed the nest as it drifted from place to place. After about ten days healthy hatchlings were seen moving about. It was thus seen that though the nest got freed and drifted about, the gourami kept on the parental care and the drifting condition of the nest did not interfere with the incubation of the eggs.

My thanks are due to the Director of Industries and Commerce, Madras, for kindly permitting this note to be published and to Dr. T. J. Job for helpful suggestions in preparing this note.

Pearl and Chank Fisheries,
Tuticorin, V. D. SPURGEON.
August 30, 1947.

YOUNG'S MODULUS

MR. V. L. TALEKAR has described[1] a method for determining Young's modulus for materials.

He has pointed out that so far only mechanical methods have been used for this purpose, and claims that his method of determining Y by electromagnetic and interferrometric measurements would be simpler in comparison with the traditional method.

This seems hardly plausible since his method involves measurements of electric currents, magnetic fields and small distances with the help of interferrometer, in addition to the usual measurements of length and diameter of the specimen.

He has also neglected the geometrical properties of the metallic ring to be tested as well as the effect of heating by electric current on the elasticity of the specimen.

In short, it is doubtful if the novelty alone can in any way recommend the adoption of his method in preference to the traditional one.

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Naigaum Cross Road, S. C. OAK.
Dadar, Bombay 14,
December 29, 1947.

1. Talekar, V. L., *Curr. Sci.*, 1947, **16**, 337.

THE idea in giving this method is not to replace the traditional one as Mr. Oak has mentioned; but to provide an additional one. It is easy to see that due to very low resistances of metals and the small size of the ring, there will be hardiy any heating of the specimen. The quantities involved can easily be measured in a scale suitably equipped and should not present any difficulty as envisaged by Mr. Oak. The method is being worked by the author.

Dungar College,
Bikaner, V. L. TALEKAR.
January 14, 1948.

NEW THEORY OF SMELL

WAVES comparable to those of light and radio but carrying smells are the essence of a new theory of the olfactory mechanism, developed and tested experimentally by scientists of Yale University, New Haven, Connecticut. The theory relates the sense of smelling to that of light rather than to chemical processes which were formerly believed to be responsible for the faculty of smelling.

The new theory endows the nose with remarkable and strange facilities, operating on a principle resembling the emission and echo reflection that make radar a miraculous detection instrument. According to the theory, the human nose is but a house for a set of antennæ —the tiny hairs in the nasal cavity just behind the point where eyebrows and the nose-bridge meet. This olfactory organ sends out an array of wavelengths, all within an octave in the infra-red range of the spectrum, rich in radiation from complex chemical substances.

In the nose's particular waveband, called the *osmic range*, tiny wave-beams are sent out to each substance to be smelled. Some of the beams will be absorbed, but others will be reflected, depending on the molecular structure of the substance. This reflected infra-red radiation returns to the nose. There this 'echo' finds a dense mass of nerve endings in the dark parts of the nasal membrane, rivalling in complexity and sensitivity the retina of the eye. These nerves are the receivers of smell, placed under protection so that an abundance of smells would not become confusing.

Under the new theory, smelling is an energy-resonance phenomenon which gives the nose the new name of osmic-radiation receiver. The transmitter-receiver combination locked in the nose operates on wavelengths ranging between 80,000 and 140,000 Angstrom units, compared to 4,000 (violet) to 8,000 (red) units for visible light.

The theory came into being through experiments with insects such as roaches and bees which smell with their feelers. Most startling was the experiment with a rare species of moths. Marked males were released from a train each mile up to seven miles distance. A few hours later the males had found their way back to a female, kept in an hermetically closed glass tube at the point of the train's departure.—*USIS.*