SALMONELLA BRIJBHUMI, A NEW
SEROTYPE FROM SEWAGE

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ABSTRACT. A new serotype, Salmonella brijbhumi 11:i:1, 5 from sewage in Uttar Pradesh, India, is described.

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An investigation was undertaken to screen the sewage from three cities in Uttar Pradesh, for the presence of Salmonella pathogens. One hundred fifty-two samples of sewage were processed which revealed the presence of 8 serotypes of Salmonella including a new one.

Kauffmann's tetrathionate broth containing 0.001% brilliant green and 5% sterile ox bile was used as the enrichment medium. To this 0.125 mg of sulfadiazine per ml of the medium was also added (Galton et al. 1954). Brilliant green agar containing sucrose and salicin in addition to lactose was used as selective medium. From these selective medium plates, red colonies were transferred on a MacConkey's medium containing mannitol instead of lactose. Mannitol fermenters on this modified MacConkey's medium were suspect for Salmonella. The use of this medium differentiates Salmonella from Proteus as all the strains of Proteus with the exception of Proteus rettgeri are mannitol negative. Sulfadiazine in the tetrathionate broth inhibited the growth of Proteus strains and the survivors if any were differentiated subsequently on modified MacConkey's agar. In the isolation of Salmonella, urea hydrolysis test may be omitted while using modified MacConkey's medium.

The cultures isolated were tested for slide agglutination with a polyvalent Salmonella 'O' serum (A-53). These organisms were further examined for lysis with Salmonella-genus-specific 0-1 phage (Cherry et al. 1954). Besides this their biochemical behavior was also studied.

Salmonella cultures were subjected to serological typing and final confirmation was done by Dr. Joan Taylor of Salmonella Reference Laboratory, London.

Out of 152 samples examined, 30 were positive for Salmonella which was comprised of 8 serotypes including a new one. Dr. Taylor studied the structure of the new serotype along with its biochemical reactions. The formula 11:i:1,5 has been confirmed by Dr. F. Kauffmann. The serotype was found to be susceptible to 0-1 phage lysis and has been named as Salmonella brijbhumi.

The biochemical behavior of this species is as follows:

Adonitol	-	Mannitol	AG	Simmons citrate	+
Dulcitol	+	H ₂ S	+	V.P.	-
Maltose	+	Urea	-	d-tartrate	-
Sorbitol	+	Indole	-	l-tartrate	-
Lactose	-	K.C.N.	-	i-tartrate	-
Sucrose	-	Malonate	-	Mucate	+
Salicin	-	P.P.A.	-	Sodium citrate	+
Glucose	AG	M.R.	+	Gelatin	-

REFERENCES

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