

A NEW SALMONELLA TYPE: SALMONELLA SEREMBAN

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A CULTURE of a new Salmonella type of organism was received during August, 1952; it had been isolated from several patients suffering from food poisoning at Seremban, Malaya (Robinson, T. M., 1952, personal communication).

On desoxycholate-citrate agar this organism produced non-lactose fermenting colonies typical of the Salmonella group. It is a Gram-negative, motile rod with the following biochemical reactions: fermentation of glucose, maltose, mannitol, dulcitol, rhamnose, trehalose and inositol with the production of acid and gas in twenty-four hours; no action on lactose, saccharose, salicin, adonitol, sorbitol and xylose. The citrate utilization test was positive; H₂S was produced but indole was not formed; gelatin was not liquefied; and urease was not produced.

When examined serologically the organism was agglutinated to titre by *Salmonella typhi* "O" serum and reciprocal-absorption tests using this serum, *Salmonella paratyphi A* "O" serum, *Salmonella paratyphi B* "O" serum,

TABLE I

Serum "O" of unknown Salmonella	Suspensions				
	Unknown Salmonella "O"	<i>S. paratyphi A</i> "O" (HA6) I, II, XII ₁ , XII ₃	<i>S. paratyphi B</i> "O" (HB3) IV, V, XII ₁ , XII ₂	<i>S. typhi</i> "O" (901) IX, XII ₁ , XII ₂ , XII ₃	<i>S. reading</i> "O" IV, XII ₁ , XII ₂
Unabsorbed	960	320	320	800	280
Absorbed with <i>S.</i> <i>paratyphi A</i> "O" (HA6) suspension	280	Less than 40			
Absorbed with <i>S.</i> <i>paratyphi B</i> "O" (HB3) suspension	40		60		
Absorbed with <i>S.</i> <i>typhi</i> "O" (901) suspension	Less than 40			60	
Absorbed with <i>S.</i> <i>reading</i> "O" sus- pension	60				Less than 40

TABLE II

Suspension Unknown <i>Salmonella</i> "O"	Suspensions				
	Unknown <i>Salmonella</i> "O"	<i>S. paratyphi A</i> "O" (HA6) I, II, XII ₁ , XII ₃	<i>S. paratyphi B</i> "O" (HB3) IV, V, XII ₁ , XII ₂	<i>S. typhi</i> "O" (901) IX, XII ₁ , XII ₂ , XII ₃	<i>S. reading</i> "O" IV, XII ₁ , XII ₂
Absorbing <i>S. paratyphi A</i> "O" (HA6) serum	(140) Less than 40	(1280) 960			
Absorbing <i>S. paratyphi B</i> "O" (HB3) serum	(60) Less than 40		(1280) 960		
Absorbing <i>S. typhi</i> "O" (901/0) serum	(240) Less than 40			(3500) 280	
Absorbing <i>S. reading</i> "O" serum	(480) Less than 40				(640) 60

Note—Figures in brackets are the sera titres against each suspension before absorption.

Salmonella reading "O" serum, and one made from the new strain proved that the "O" complex was IX, XII₁, XII₂, and XII₃.

The organism was diphasic and in its first phase was agglutinated to titre with *Salmonella typhimurium* "H" (i) serum. In its second phase the organism was agglutinated to titre with *Salmonella mission* var. *isangi* "H" (1, 3, 5) serum. Reciprocal absorption tests showed that the "H" antigens of the new organism were i=1, 3, 5.

The presence of the "O" (IX, XII₂ and XII₃) and "H" (i, 1, 3, 5) antigens was confirmed by single factor sera.

The serology is summarized in Tables I and II.

SUMMARY

A new *Salmonella* type is described, for which the name *Salmonella seremban* is proposed; it has the antigenic formula IX, XII₁, XII₂, XII₃; i=1, 3, 5. It was the apparent cause of a number of human cases of food poisoning.