A NEW SALMONELLA TYPE: SALMONELLA SEREMBAN

BY

Major B. R. FRISBY
Royal Army Medical Corps

and

Sergeant D. HOLLOS
Royal Army Medical Corps

(The David Bruce Laboratories, East Everleigh, Nr. Marlborough, Wilts.)

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; \( \text{H}_2\text{S} \) 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 

<table>
<thead>
<tr>
<th>Serum “O” of unknown Salmonella</th>
<th>Suspensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>of unknown Salmonella</td>
<td>Unknown Salmonella “O”</td>
</tr>
<tr>
<td>Unabsorbed</td>
<td>960</td>
</tr>
<tr>
<td>Absorbed with S. paratyphi A “O” (HA6) suspension</td>
<td>280</td>
</tr>
<tr>
<td>Absorbed with S. paratyphi B “O” (HB3) suspension</td>
<td>40</td>
</tr>
<tr>
<td>Absorbed with S. typhi “O” (901) suspension</td>
<td>Less than 40</td>
</tr>
<tr>
<td>Absorbed with S. reading “O” suspension</td>
<td>60</td>
</tr>
</tbody>
</table>

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,
A New Salmonella Type

### Table II

<table>
<thead>
<tr>
<th>Suspension Unknown Salmonella “O”</th>
<th>S. paratyphi A “O” (HA6)</th>
<th>S. paratyphi B “O” (HB3)</th>
<th>S. typhi “O” (901)</th>
<th>S. reading “O” IV, XII, XIIa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown Salmonella “O”</td>
<td>I, II, XII, XIIa</td>
<td>IV, V, XII, XIIa</td>
<td>IX, XII, XIIa, XIIa</td>
<td>IV, XII, XIIa</td>
</tr>
<tr>
<td>Absorbing S. paratyphi A “O” (HA6) serum</td>
<td>Less than 40</td>
<td>(1280) 960</td>
<td>Less than 960</td>
<td>Less than 280</td>
</tr>
<tr>
<td>Absorbing S. paratyphi B “O” (HB3) serum</td>
<td>Less than 40</td>
<td>(1280) 960</td>
<td>Less than 960</td>
<td>Less than 280</td>
</tr>
<tr>
<td>Absorbing S. typhi “O” (901/0) serum</td>
<td>Less than 40</td>
<td>Less than 280</td>
<td>Less than 280</td>
<td>Less than 60</td>
</tr>
<tr>
<td>Absorbing S. reading “O” serum</td>
<td>Less than 40</td>
<td></td>
<td>Less than 60</td>
<td></td>
</tr>
</tbody>
</table>

*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, XII, XIIa, and XIIa.

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, XII, and XIIa) and “H” (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, XII, XIIa, XIIa; i=1, 3, 5. It was the apparent cause of a number of human cases of food poisoning.
Salmonella Seremban

A New Salmonella Type:

Salmonella Seremban

B. R. Frisby and D. Hollos

*J R Army Med Corps* 1954 100: 55-56
doi: 10.1136/jramc-100-01-07

Updated information and services can be found at:

[http://jramc.bmj.com/content/100/1/55.citation](http://jramc.bmj.com/content/100/1/55.citation)

**Email alerting service**

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:

[http://group.bmj.com/group/rights-licensing/permissions](http://group.bmj.com/group/rights-licensing/permissions)

To order reprints go to:

[http://journals.bmj.com/cgi/reprintform](http://journals.bmj.com/cgi/reprintform)

To subscribe to BMJ go to:

[http://group.bmj.com/subscribe/](http://group.bmj.com/subscribe/)