Undescribed Serotype of *Salmonella*: *Salmonella enteritidis* ser. Lovelace

SYLVIA F. BARTES AND WILLIAM J. MARTIN

Enteric Bacteriology Unit, National Communicable Disease Center, Atlanta, Georgia 30333

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A new serotype of *Salmonella* is described. Culture 1505-68, serotype 13,22,36:1, v:1,5, was recovered from the stool of a female patient and designated *Salmonella enteritidis* ser. Lovelace.

The purpose of this note is to provide a description of a newly characterized serotype (ser.) of *Salmonella*. This culture (1505-68) was isolated from the feces of a female patient and was subsequently referred to the National Salmonella Center for confirmation by the New Mexico State Health Department. The source of infection was not disclosed.

The system of nomenclature used for the genus *Salmonella* is that proposed by Ewing (2) and is based on the three-species concept suggested by Kauffmann and Edwards (5) and Borman, Stuart, and Wheeler (1). The species *S. enteritidis* includes all salmonellae other than *S. typhi* and *S. cholera-suis*. Accordingly, serotypes of *S. enteritidis* are written as follows: *S. enteritidis* ser. Enteritidis, *S. enteritidis* ser. Typhimurium, etc. The infrasubspecific designations are capitalized for reasons of clarity only.

The biochemical reactions of isolate 1505-68 characterize it as a typical motile member of the genus *Salmonella* and, in the terminology of Kauffmann (4, 5), as a member of subgenus I. The organism failed to produce indole, was methyl red-positive and Voges-Proskauer-negative, grew rapidly on Simmons citrate medium, and produced hydrogen sulfide. It failed to produce urease or deaminate phenylalanine. Nitrate was reduced to nitrite, and lysine, arginine, and ornithine were decarboxylated. By employing the method of Kauffmann and Petersen (6), sodium citrate and mucate were utilized in 1 day; d-tartrate, l-tartrate, and l-tartrate were not utilized. The organism failed to utilize sodium malonate or to grow in KCN medium. Tests for \( \beta \)-galactosidase activity (o-nitrophenyl-\( \beta \)-D-galactopyranoside test) were negative (7). Kohn gelatin was not liquefied. Glucose, dulcitol, sorbitol, arabinose, rhamnose, maltose, mannitol, xylose, and trehalose were fermented and gas was produced within 24 hr. Cellobiose was utilized after 4 days of incubation. Lactose, sucrose, salicin, inositol, adonitol, raffinose, and glycerol were not fermented.

Antigenic analysis indicated that strain 1505-68 belongs to O group G, reacting in antiserum 13, 22. It also reacted in absorbed single-factor antiserum for 22 and 36, but not 1, 23, and 37. Furthermore, the O antigens were agglutinated to the homologous titer (1:400) of *S. enteritidis* ser. Poona O antiserum 13,22,36. In subsequent absorption tests, all agglutinins were removed from this antiserum.

The flagellar (H) antigens of this serotype were diphasic and respectively characterized as l, v and 1,5. The phase 1 antigens were agglutinated in diagnostic dilutions of antiserum containing agglutinins for antigens of the l-complex. When these antigens were tested in absorbed single-factor antiserum, agglutination was readily obtained in the diagnostic dilution of factor v serum but none occurred with factors w, z28, z13, or z40. The phase 1 H antigens were agglutinated to the titer (1:3,200) by H antiserum prepared with phase 1 (l,v) of *S. enteritidis* ser. Bredeney. Absorption tests removed all agglutinins from this antiserum. The phase 2 antigens of strain 1505-68 were agglutinated to the titer by antiserum containing agglutinins for antigens of the l-complex. When these antigens were tested in single-factor antiserum, agglutination occurred with factor 5 but not with factors 2, 6, and 7. The phase 2 antigens were agglutinated to the titer (1:25,600) of phase 2 antiserum (1,5) of *S. enteritidis* ser. Thompson var. Berlin. After absorption with phase 2 antigens of 1505-68, a titer of less than 1:50 was obtained.

Culture 1505-68 was designated as a new serotype with the antigenic formula 13,22,36:1, v:1,5. The name *S. enteritidis* ser. Lovelace was proposed for it.
LITERATURE CITED


