A NEW SALMONELLA SEROTYPE: S. ARKANSAS

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ABSTRACT. A new Salmonella serotype (O3, H15, 34:e−, h−1, 5) was described and the designation Salmonella arkansas was assigned to it. The culture was isolated from a six-months-old child ill with gastroenteritis.

The new serotype to be described was received by the Enteric Bacteriology Unit, Communicable Disease Center, Atlanta, Georgia, from the Arkansas State Board of Health. It was isolated from the stool of a six-months-old negro male with gastroenteritis at the Arkansas State Board of Health. Shigella flexneri 2b was isolated from the same stool specimen. Shigella flexneri 2a was isolated from a later stool specimen from this patient.

The culture failed to produce indol, was methyl-red positive, Voges-Proskauer negative, grew on Simmons' citrate agar and produced H2S, but failed to hydrolyze urea or to liquefy gelatin. The lysine and ornithine decarboxylase tests were positive in one day, and the arginine dihydro-lase test was positive in three days. When tested by the method of Kauffmann and Petersen (1956), d- and l-tartrate, citrate and mucate were utilized promptly and i-tartrate was not attacked. The culture promptly produced acid and gas from glucose, maltose, mannitol, arabinose, xylose, inositol, sorbitol, trehalose, rhamnose and dulcitol. Lactose, sucrose, salicin, adonitol, raffinose, cellobiose and glycerol were not attacked.

1 The work described in this paper was done at the Communicable Disease Center, Atlanta, Georgia, during the time this author was assigned to the Enteric Bacteriology Unit there.
Salmonella arkansas was a member of group E₃ of the Kauffmann-White schema and in adsorption tests removed all agglutinins from *S. illinois* O (3), (15), 34 serum. The H antigens were diphasic and phase 1 agglutinated to the titer of *S. reading* phase 1 (e, h) serum and in adsorption tests removed all agglutinins from the serum. Phase 2 was agglutinated by *S. thompson* phase 2 (1, 5) serum. It was readily agglutinated by single factor 5 serum but not by sera for factor 2, 6, 7 and z₆. In adsorption tests it reduced the titer of *S. thompson* phase 2 serum from 1-8,000 to 1-100. Salmonella arkansas was assigned the antigenic formula (3), (15), 34:e, h-1, 5.

REFERENCES
