SALMONELLA GOKUL, A NEW SEROTYPE FROM PIGS

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SUMMARY. Out of 308 faecal samples from apparently healthy pigs, 29 Salmonella strains comprising nine serotypes including a new one, Salmonella gokul, were isolated. The antigenic formula of S. gokul is 1,51:d:- and the organism has been placed in Subgenus I on the basis of its biochemical behaviour. Further work on the characterization of this new serotype is suggested.

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An investigation was undertaken to study the occurrence of salmonellae from various sources, viz., man, domestic animals and birds, rabbits, sewage and bone meal. The present report deals with the isolation and identification of a new salmonella serotype from carrier pigs.

MATERIALS AND METHODS

Three hundred and eight faecal samples were collected from apparently healthy pigs of various localities of Mathura, Hissar and Faridabad townships. Salmonellae were isolated according to the methods advocated by Edwards et al. (1948) and Smith & Buxton (1951). The combination of Kauffmann's modified tetrathionate broth as enrichment and brilliant green agar as selective media were used along with MacConkey agar, modified by replacing lactose from the original medium with mannitol, as a purifying and differential medium. Colonies suspected of containing salmonellae were picked from the selective medium and plated on modified MacConkey agar to differentiate them from Proteus colonies.

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Salmonella colonies appear red on this medium due to fermentation of mannitol whereas Proteus colonies, with the exception of those of Proteus rettgeri, which are of rare occurrence, do not attack this sugar and remain colourless. Therefore, the urea-hydrolysis test was omitted.

The mannitol fermenters from modified MacConkey agar were preliminarily identified by slide agglutination with Poly (A-53) serum and Salmonella genus specific "O-1" phage lysis of Cherry et al. (1954). Biochemical behaviours were also studied. Serological typing was done for both "O" and "H" antigens according to methods of Edwards and Ewing (1962), and cultures were forwarded to Dr. Joan Taylor, Director, Salmonella Reference Laboratories, Colindale, London, for confirmation and final typing.

RESULTS AND DISCUSSION

Twenty-nine Salmonella strains comprising nine serotypes including a new one, Salmonella gokul, were isolated. The antigenic structure of S. gokul is 1,51:d:-, Subgenus I (Taylor, 1963). The biochemical reactions of the new serotype are as follows:

5% Lactose	-	K. C. N.	-
Sucrose	-	Malonate	-
Salicin	-	Dextrotartrate	+ ₃
Glucose	AG	Laevo	- ₃
Mannitol	+	Meso	- ₃
Dulcitol	AG	Sodium citrate	+ ₃
Indol	-	Mucate	+ ₁
Methyl red	+	Gelatin	- ₂₃
Voges-Proskauer	-	P. P. A.	-
Simmon's citrate	+	O. N. P. G.	-
Urea	-	Arginine	+
H ₂ S	+	Lysine	+
Motility	+	Ornithine	+

(subscripts indicate number of days)

This serotype was resistant to "O-1" phage lysis. This is probably the 6th member of rare group 51. Further work on its distribution and characterization is suggested.

BACTERIOLOGICAL NOMENCLATURE
AND TAXONOMY

ACKNOWLEDGEMENTS

The authors express their sincere thanks to Dr. Joan Taylor, Director, Salmonella Reference Laboratory, Colindale, London, for serological confirmation of our cultures and accepting a new serotype. Thanks are due to Principal, C.V.G. Choudary, U.P. College of Veterinary Science and Animal Husbandry, Mathura, for providing laboratory facilities. Thanks are extended to Indian Council of Agricultural Research, Krishi Bhawan, New Delhi for the award of Junior Research Fellowship to S.K. Datta.

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