CHAPTER. VIII.

SUMMARY.
1. The purpose of the present studies is to gain an insight into the various characteristics of the genus Xanthomonas which includes yellow pigment producing, polar flangelate, gram-negative, capsulated rods causing leaf spot and blight on leaves, stems and other above ground parts. Such investigations would ultimately lead to their proper identification and control of the diseases produced by them.

2. The first phase of such a study consists in collecting some known species of Xanthomonas. In addition, six new species are recorded.

3. Though 65 and odd Xanthomonas species are reported occurring in India by this time, it is felt from the present investigations that some more can be added by intensive survey in the forest of Gir, Abu, Vindhyaa mountains, Kashmir etc., which have not systematically been surveyed so far for this purpose. Possibilities of finding some more unreported diseases even from the surveyed area cannot be ruled out.

4. Amino acids seem to be more suited as a source of nitrogen rather than carbon. Less striking differences among the species investigated are observed indicating that such a property is common to all members of the genus and may be made use of at generic level.
5. Lipolysis of different oils is found to be quite common with all the organisms investigated though the degree of hydrolysis is not uniform. This property can also be pressed into service at generic level to differentiate phytopathogenic _Pseudomonas_ from _Xanthomonas_.

6. Various chemicals inhibiting these organisms _in vitro_ are listed. Some were inhibitory at very high concentrations. Present studies indicate the usefulness of arsenite arsenic as antimicrobial and insecticidal. It is conceivable that it may also be effective in the control of leaf and fruit spot of mango incited by _Phytobacterium mangiferae Indicae_ (Patel et al) Patel & Kulkarni.

7. Arsenite arsenic is exploited in the control of citrus canker which causes tremendous economic loss to citrus growers. A spray mixture consisting of Sodium arsenite, Copper Sulphate, Glycerine and Idet '20' is found to be very effective in its control besides killing insect fauna especially the leaf miner. The mixture if sprayed when required will not only effectively control but may lead to its eradication from this country as has been done in U.S.A. and S.A. by destruction of infected citrus groves.
Sensitivity of the organisms to several antibiotics, some with broad spectrum, is found to vary from member to member. Tetracycline, Kanamycin, Terramycin, Streptomycin and Chloramphenicol are inhibitory while penicillin and Bacitracin, active against gm + ve organisms are not.