5481

Dissociation of Avian Tubercle Bacilli.*

ELEANOR G. ALEXANDER. (Introduced by R. L. Kahn.)

From the Department of Bacteriology, University of Michigan.

This is a preliminary report of an attempt to dissociate avian tubercle bacilli by growing the organisms on a medium containing specific antiserum. The organisms were obtained from Michigan State College at East Lansing and were grown on slants on Long's agar medium. The growth was found to be orange colored, rough and corrugated and the organisms were considered to be of the R type.

The antiserum was obtained by injecting 2 rabbits with emulsions of these organisms in sterile physiologic salt solution containing a concentration of 1 mgm. per 1 cc. The emulsions were heated for 45 minutes at 56°C. before the injections. Each rabbit received a total of 9 injections of 1 cc. every 3 to 4 days and the last one consisted of 2 cc. Two weeks after this injection, the serum of each of these rabbits was tested for complement fixing substances using a suspension of avian bacilli heated for one hour at 60°C. Both sera gave strongly positive complement fixation reactions against sera of non-inoculated rabbits which gave negative results. A week later both rabbits were exsanguinated and the sera obtained under sterile conditions.

Transfers from corrugated growth of the avian bacilli on Long's agar slants were made on similar slants containing 10% of the antiserum. After about 4 weeks' growth 2 types of tubercle bacilli were observed: a preponderance of small, smooth, round, moist, white colonies having an average size of streptococcus colonies corresponding to the S type, and some typical, rough, corrugated, orange colored R colonies. Control agar slants containing, respectively, 10% normal serum and no serum showed only a few smooth colonies and consisted of R type of growth.

These results indicate that the presence of anti R serum is capable of dissociating avian tubercle bacilli R type into S. The S type may possibly correspond to certain colonies obtained by Petroff,[1] with an avian strain, grown on his medium, which he described as moist and round and which he calls S.

* This study was aided by a grant from the Commonwealth Fund.

[1] Petroff, S. A., and Steenken, W., Jr., *J. Exp. Med.*, 1930, **51**, 831.