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STUDIES ON THE PHASE VARIATION IN PILI OF
CORYNEBACTERIUM RENALE

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The possibility of phase variation in pili of *C. renale* was studied using *C. renale* 109 piliated (P^+) and non-piliated (P^-) clones. The rates of emergence of P^- bacteria or P^+ bacteria in P^- or P^+ bacteria populations respectively, were estimated by means of colony ELISA blot.

The rate of emergence of P^- bacteria in the P^+ bacteria population increased during the passages of P^+ bacteria on nutrient agar plates; P^- bacteria, which were originally present in the P^+ bacteria population at the rate of 0.1%, increased to 50% at the 11th passage and to 100% at the 30th passage on nutrient agar plates. On the other hand, the rate of P^+ bacteria in the P^- bacteria population did not change during successive cultures of P^- bacteria on nutrient agar plates.

In nutrient broth, the rate of P^- bacteria in the P^+ bacteria population increased 10 times in a shaken culture and 200 times in a static culture. In contrast, the rate of P^+ bacteria in the P^- bacteria population increased 2.5 times in a static culture and 7.5 times in a shaken culture. After 11 successive passages in nutrient broth in the shaken culture, the rate of P^+ bacteria in the P^- bacteria population reached 100%.

Phase variation in pili of *C. renale* was thus evidenced for the first time.