

**B322** Composition of acid-tolerant epiphytic bacteria on plant leaves affected by acid precipitations

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A total of 71 acid-tolerant epiphytic bacterial isolates were recovered from plant leaves in the industrial area affected by acid precipitations and in the clean natural forest area not affected by acid precipitations in Taejon. The number of acid-tolerant isolates at pH 3.0 was 24 and the others were isolated from the pH 4.0 medium. All isolates were rod-shaped cells, of which Gram-positives were 52 and the others were Gram-negatives. Twenty-six isolates were from the plant leaves in the industrial area, while the others, from plant leaves in the clean natural area. Fifty-six isolates were identified by API kit and MIDI system. The predominant bacterial group was family Enterobacteriaceae, 33 isolates. The identified genera of family Enterobacteriaceae were *Cedecea*, *Enterobacter*, *Kluyvera*, *Proteus*, *Klebsiella*, *Citrobacter*, *Serratia*, and *Yersinia*. Five isolates belonged to the group of endo-spore forming Gram-negative rods, *Bacillus*, and four isolates to the group of irregular non-sporing Gram-positive rods, *Clavibacter* and *Corynebacterium*. The other 14 isolates did not belong to any bacterial groups.

**B323** Development of bacterial biofilms on water pipe coupons by bacterial species

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All kinds of bacterial biofilms on the galvanized-iron water pipe coupon were observed in two weeks after the operation of batch reactors. The maximum densities of *Pseudomonas fluorescens*, *Enterobacter agglomerans*, and *Enterococcus faecalis* developed on each coupon were at a level of  $10^5$  CFUs/ml, about the same as inoculant densities in water, which occurred in two or three weeks after the operation, while those of pathogenic bacteria, *Salmonella typhimurium* and *Shigella dysenteriae* were only a level of  $10^4$  CFUs/ml, about 1/10 of the inoculant densities. This tells us that the ability of biofilm development of indicator bacteria were by no means lower than that of heterotrophic bacteria, a dominant bacterial species in drinking water.