



Study on biofilm-forming ability of environmental isolates of *Legionella*, *Sphingomonas* and *Elizabethkingia*

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Abstract: This study was assessed biofilm formation ability on coverslips and tube method by some isolates of *Legionella* species, *Sphingomonas paucimobilis* and *Elizabethkingia meningoseptica*, and investigate the effect of pipe material on biofilm formation by these isolates which isolated from cooling and drinking water in Baghdad City. The tested bacterial isolates were produced biofilm at a percentage of 81.25%; 88.24% and 75% from isolates of *S. paucimobilis*, *Legionella* spp and *E. meningoseptica* respectively by coverslips methods. While by tube method it were 76.47% of *Legionella* isolates, 57.14% of *S. paucimobilis* and 50% of *E. meningoseptica* were biofilm producer of tested isolates. All tested isolates are forming biofilm at different degree on all tested pipes materials and the bacterial count of biofilms was higher on galvanized iron pipe than other material pipes for S148, S8, Lp44 and Lm86 bacterial isolates, while cell count on the other material were varies according to the isolates. On the other hand stainless steel having the lowest bacterial count.

Key words: Biofilms, pipe material, *Legionella*, *Sphingomonas*, *Elizabethkingia*.

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