

Legionella pneumophila

(2006/5/31 , 2006/1/3)

Legionella pneumophila

2004

2004

DNase β -lactamase

.IMViC

Isolation and Identification of *Legionella pneumophila* from cooling towers

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ABSTRACT

The study included isolation of *Legionella pneumophila* from cooling water during March 2004 –September 2004. The bacterium was identified depending on ability to grow on selective media and microscopical examination which revealed that it is gram negative as well as biochemical tests were done and showed its variation reaction for oxidase and positive reactions for catalase, motility, gelatinase, hippurate hydrolysis and starch hydrolysis as well as it was positive for β -lactamase, DNase, Lipase and protease and it was negative for urease, carbohydrate fermentation, nitrate reductase and IMViC test .

Legionella

.(Mathews and Roy, 2000) *L.pneumophila*

L.pneumophila

. (Addiss et al., 1989) ° 42-25

Legionellaceae

L.pneumophila

0.9-0.3

20-2

Rodgers and Pasculle, 1991 ; Brooks et al ., 2001)

.(Baker and Breach, 1980;

L-Cysteine HCl

Bufferd Charcoal Yeast Extract Agar (BCYE)

7-3

L.

(Tierney et al., 2003)

pneumophila

L. pneumophila

Cooling towers

(70)

.3 250

(Thornsberry & Kirven , 1978) β - Lactamase

IMViC

.(Collee *et al* ., 1996 ; Koneman *et al.*, 1997)

- Nutrient Gelatin medium •
 - Sulfide-Indol Motility medium SIM •
 - Starch Hydrolysis medium •
 - Hippurate Hydrolysis medium •
 - DNase Agar medium •
 - Egg Yolk Agar •
 - Casein Hydrolysis medium •
 - Phenol Red Peptone Water medium •
 - Nitrate Broth medium •
 - Christensens Urea Agar medium •
 - Peptone Water medium •
 - Glucose Phosphate Peptone Water medium •
 - Simmon's Citrate Agar medium •
- .(MacFaddin, 1985 ; Collee et al., 1996)

21 120
 %17.5 *L. pneumophila*
 (1993) Koid
 % 50 *L. pneumophila*
 (1997) Heng
 Hadgson % 36
 % 60 (1998) Casey
 200 Industrial Water Society (IES)

..... *Legionella pneumophila*

(2000) Wahala .

4 *L.pneumophila*
. % 93.7

L. pneumophila

% 80

. % 52

(1981) Bopp . % 40

% 45

(1982) Edelstien . % 36

% 83

. % 71

L.pneumophila

° 42-25

° 35

.(Reinthalder et al., 1993; Ta et al., 1995) 7.2-6.6 6.9

L. pneumophila

BCYE

(1)

FG .(Collee et al., 1996 ; Forbes et al., 2002)

(2)

.(1978) Feeley

(3)

(1988) Taylor Harrison

Charcoal Yeast Extract Hemoglobin Agar Medium

(4) 10

.(1978) Weaver

Edelstein

(5)

MWY

(1982)

Vickers

(6)

(1981)

(7)

Ristroph

(1980)

.1996

Collee

L. pneumophila

.(8)

1

Tetramethyl-P-

Phenyl Diamin Dihydro Chloride

(2001)

Brooks

L.pneumophila

(2002)

Forbes

L.pneumophila

(9)

. (1981)

Hebert

Weaver

(10)

β -

(1978)

Lactamase

Kirven Thornsberry (11)
 . β - Lactamase (1978)
 ()
 (12)
 (2001) Brooks
 DNase
 .DNase
 Nitrate Reductase
 (1985) Brenner
 IMViC

L. pneumophila

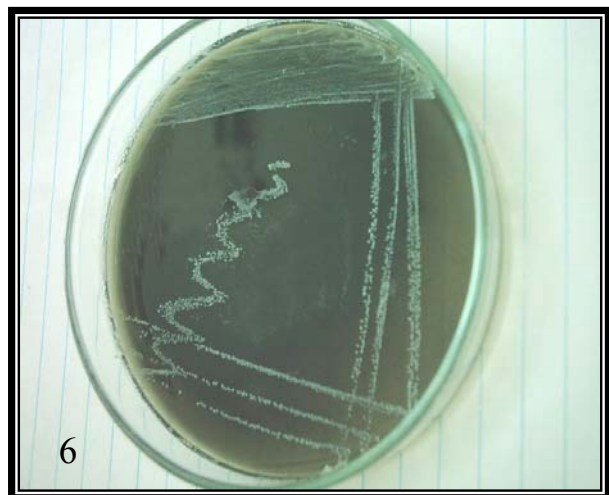
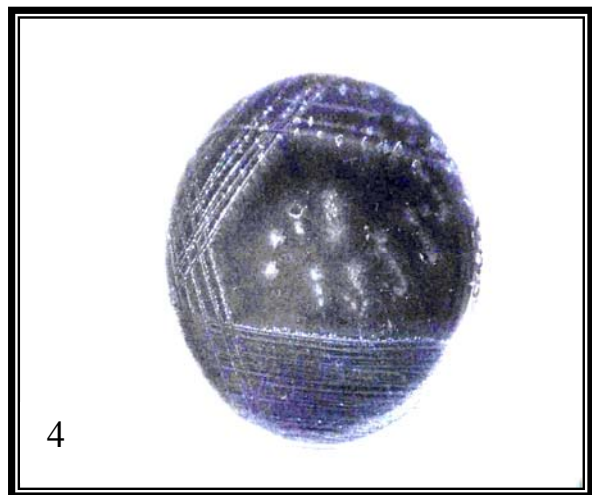
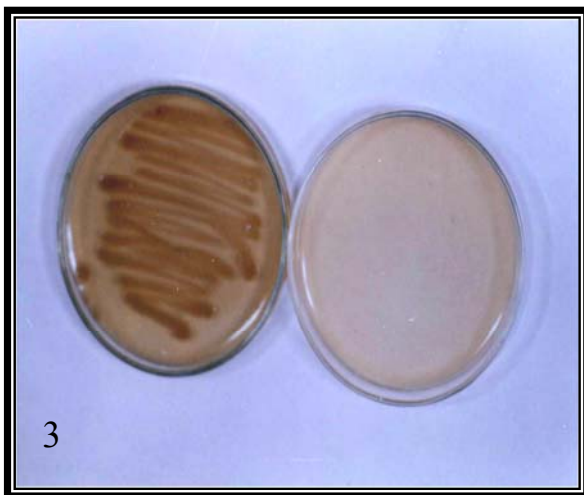
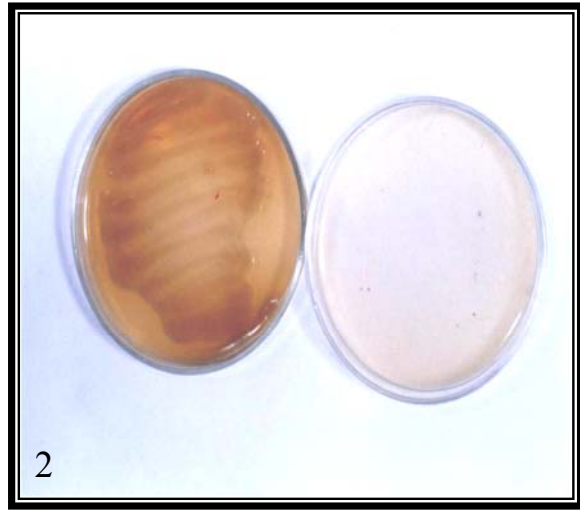
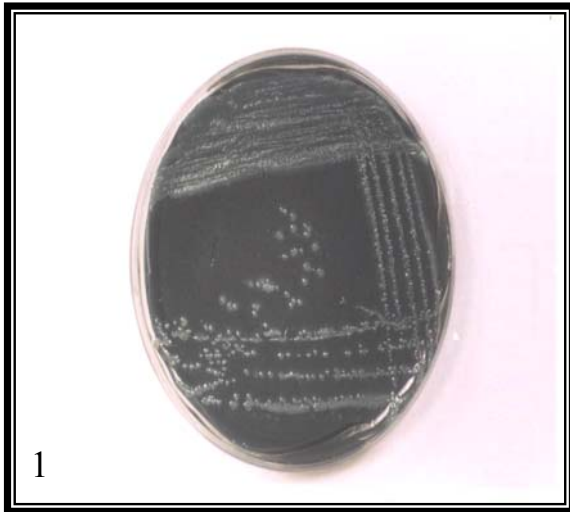
:1

	Tests	
±	Oxidase test	
+	Catalase test	
+	Motility test	
+	Gelatinase test	
+	Hippurate hydrolysis test	
+	Starch hydrolysis test	
+	β – Lactamase test	
+	Lipase test	
+	DNase test	
+	Protease test	
-	Urease test	
-	Carbohydrate Fermentation	
-	Nitrate reductase	
-	IMViC tests	IMViC

Variable ±

Positive +

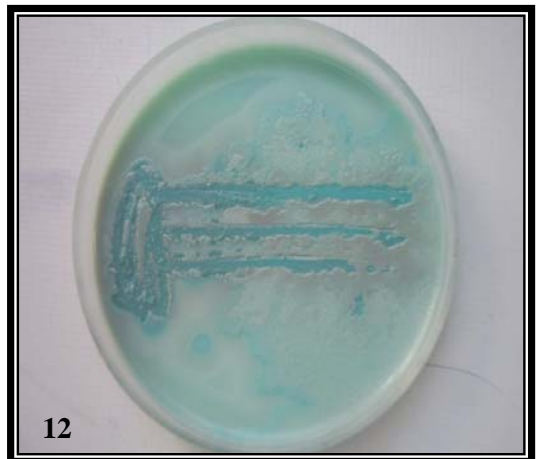
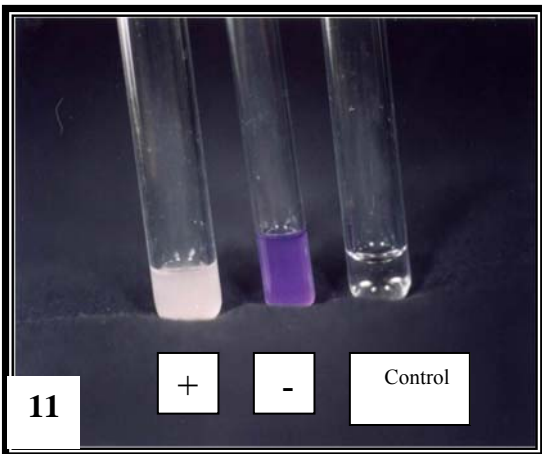
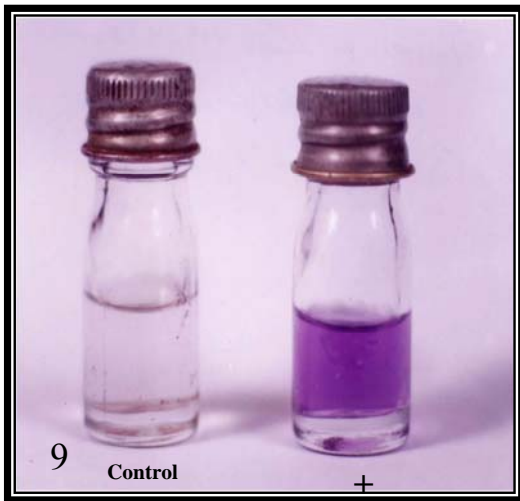
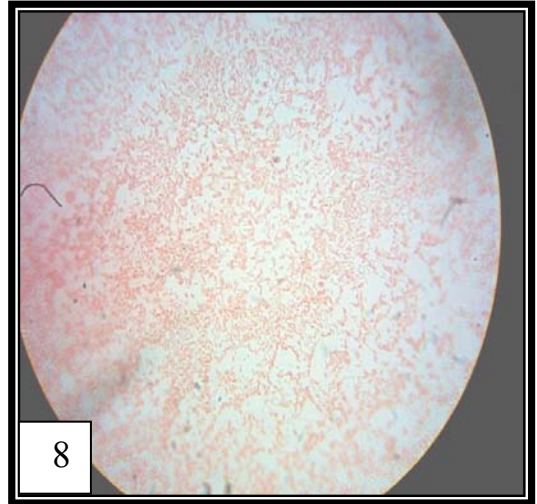
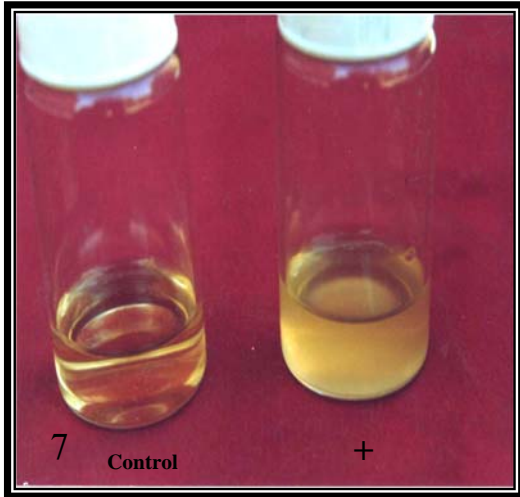
Negative



L. pneumophila

:1

BCYE	<i>L. pneumophila</i>	(1)
FG	<i>L. pneumophila</i>	(2)
	<i>L. pneumophila</i>	(3)
	<i>L. pneumophila</i>	(4)
MWY	<i>L. pneumophila</i>	(5)
	<i>L. pneumophila</i>	(6)



()
(1000x)

β -Lactamase

- L. pneumophila* (7)
- L. pneumophila* (8)
- L. pneumophila* (9)
- L. pneumophila* (10)
- L. pneumophila* (11)
- L. pneumophila* (12)

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