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70

Collard dove (*Streptopelia decaocto*)

12 . 2011 2010

(%11.7) *Staphylococcus xylosus* . 21

(%1.8) *Gallibacterium anatis* *Micrococcus luteus*

.

En. (%12) *Bacillus subtilis* *Enterococcus durans*

(%9) *Pasteurella multocida* *Escherichia coli avium*

Pseudomonas aeruginosa (%20) *Staph. xylosus*

E. coli *En. faecalis* *Staph. saprophyticus* *Staph. xylosus*

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Isolation and Identification of Bacteria from Genital Organs of Pigeons

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ABSTRACT

This study includes an examination of 70 bacterial swabs taken from ovary, oviduct of femal and male testis from adult pigeons of species Collard dove (*Streptopelia decaocto*), from December 2010 to June 2011. The pigeons were clinically healthy. The isolates were 12 species and 21 types of bacteria. The type *Staphylococcus xylosus* was highest ratio (11.7%) and types *Micrococcus luteus* and *Gallibacterium anatis* were lowest ratio (1.8%). Other isolates of bacteria were distributed between these two percentages. Regarding the isolate site, the highest isolation ratio of ovarian swabs was *Enterococcus durans* and *Bacillus subtilis* (12%), while the higher bacteria ratio isolated from the oviduct swabs are *En. avium*, *Escherichia coli* and *Pasteurella multocida* (9%), the testicular swabs were *Staph. xylosus* most isolation ratio (20%), while isolate each of species *Pseudomonas aeruginosa*, *Staph. xylosus*, *Staph. saprophyticus*, *En. faecalis* and *E. coli* of swabs taken in the case of ovulation from female pigeons, has also investigated some of the Virulence factors which are possessed by these isolates such as Urease, DNase, Gelatinase and Haemolysin, the study found that these isolates have some of these factors.

Keywords: Bacteria, ovary, oviduct, testis, pigeons.

.(Kigir *et al.*, 2010)

(19-17)

.(Giunchi *et al.*, 2012)

Cloacae

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.(Saif *et al.*, 2008, Ritchie *et al.*, 1994)

Sparrow

(Stewart and Rambo,2000)

Gram negative enteric bacteria Staphylococcus spp.

(Westneat and Rambo,

Salmonella spp. Yersinia spp. Lactobacillus spp.

(%80) 2000)

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(Miyamoto *et al.*,1998)

Salmonella spp. Campylobacter spp. Staphylococcus spp.

.(Hupton *et al.*, 2003) Shigella spp.

E. coli

.(Crespo *et al.*,2001)

()

.(Trample *et al.*, 2007)

(Board,1966)

Salmonella spp. *E. coli*

Bacillus spp.

.(De Reu *et al.*,2008) Pseudomonas spp. Proteus spp. Aeromonas spp. Alcaligenes spp.

(Ritchie *et al.*, 1994)

Collard dove (*Streptopelia decaocto*)

: -1

42

(Barnhart *et al.*, 1993)

30

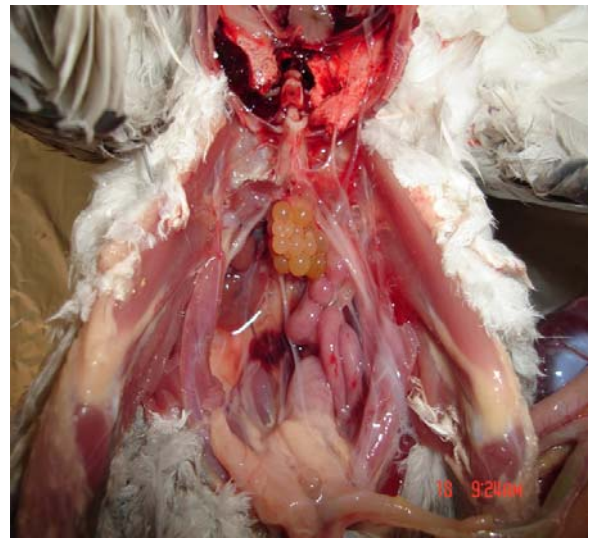
(Quinn *et al.*, 2004)

5

70

5

(Miyamoto *et al.*, 2000)



:2

:1

(Miyamoto *et*

al., 2000)

(Barnhart *et al.*, 1993)

°37

24

:

-2

(Sheep blood agar)

24

°37

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:

KOH test

Hirsh Koneman *et al.*, 1997 Holt *et al.*, 1994)

(Saif *et al.*, 2008 Quinn *et al.*, 2004 *et al.*, 2004

(Kamble *et al.*, 2011)

.(Quinn *et al.*, 2004)

Pseudomonas

5 :

Staph. saprophyticus *Staph. xylosus* 4 *aeruginosa*

E. coli *Enterococcus faecalis*

(1)

(%11.7) *Staph. xylosus*

E. coli (%1.8) *Ga. anatis* *Mi. luteus*

Strep. Staph. saprophyticus (%6.4) *Ps. aeruginosa* *Bacillus subtilis* (%7.2)

Pasteurella multocida *Corynebacterium cystiditis* *En. faecalis* *En. avium pyogenes*

Co. kutscheri *Strep. equi subsp. zooepidemicus* *Staph. aureus* (% 5.4)

Klebsiella pneumoniae *En. durans* *Staph. arlettae* (% 4.5)

(2) .(%2.7) *Pr. mirabilis* *Proteus vulgaris* *Co. xerosis* (%3.6)

(3)

(4)



Corynebacterium spp.

:3

:1

(100) 42	(33.3) 14	(66.7)28				
		(29) 8		(71)20		
(100)70	(20)14	(11) 8	(11) 8	(29)20	(29)20	
	(%)	(%)	(%)	(%)	(%)	-
(11.7)13 (5.4)6 (4.5)5 (3.6)4 (1.8)2	(20)5 - (8)2 (12)3 (4)1	(12.5)1 (25)2 - - -	(37.5)3 (25)2 - - -	(7)3 (2.3)1 (4.5)2 - (2.3)1	(3.8)1 (3.8)1 (3.8)1 (3.8)1 -	<i>Staphylococcus xylosus</i> <i>Staph. saprophyticus</i> <i>Staph. aureus</i> <i>Staph. arlettae</i> <i>Micrococcus luteus</i>
(5.4)6 (4.5)5	(12)3 (4)1	- -	- -	(4.5)2 (4.5)2	(3.8)1 (7.6)2	<i>Streptococcus pyogenes</i> <i>Strep. equi subsp. zooepidemicus</i>
(5.4)6 (5.4)6 (3.6)4	- (4)1 -	- (12.5)1 -	- (12.5)1 -	(9)4 (4.5)2 (2.3)1	(7.6)2 (3.8)1 (12)3	<i>Enterococcus avium</i> <i>En. faecalis</i> <i>En. durans</i>
(5.4)6 (4.5)5 (2.7)3	(8)2 (4)1 -	- - -	- - -	(7)3 (4.5)2 (2.3)1	(3.8)1 (7.6)2 (7.6)2	<i>Corynebacterium cystitidis</i> <i>Co. kutscheri</i> <i>Co. xerosis</i>
(6.4)7	(8)2	-	-	(4.5)2	(12)3	<i>Bacillus subtilis</i>
(7.2)8	(8)2	(12.5)1	-	(9)4	(3.8)1	- <i>E. coli</i>
(5.4)6 (1.8)2	- -	- -	- -	(9)4 (4.5)2	(7.6)2 -	<i>Pasteurella multocida</i> <i>Gallibacterium anatis</i>
(2.7)3 (2.7)3	(4)1 (4)1	- -	- -	(2.3)1 (4.5)2	(3.8)1 -	<i>Proteus vulgaris</i> <i>Pr. mirabilis</i>
(3.6)4 (6.4)7	- -	- (37.5)3	- (25)2	(7)3 (4.5)2	(3.8)1 -	<i>Klebsiella pneumoniae</i> <i>Pseudomonas aeruginosa</i>
111	25	8	8	44	26	

N	Type of isolates	No. of isolate	Nitrate reduction	Citrate	VP	MR	Indol	Colony pigment	KOH	Oxidase	Catalase
1.	Staphylococcus spp.	28	±	+	±	+	-	±	-	-	+
2.	Micrococcus spp.	2	-	+	+	-	-	± Y	-	+	+
3.	Streptococcus spp.	11	-	-	-	+	-	-	-	-	-
4.	Enterococcus spp.	16	±	±	±	-	+	-	-	±	-
5.	Corynebacterium spp.	14	±	-	-	-	-	± Y	-	-	+
6.	Bacillus spp.	7	+	+	±	-	-	-	-	±	+
7.	<i>E. coli</i>	8	+	-	-	+	+	-	+	-	+
8.	Pasteurella spp.	6	+	-	-	-	+	-	+	+	+
9.	Gallibacterium spp.	2	+	-	-	-	-	-	+	+	+
10.	Proteus spp.	6	+	±	±	+	±	-	+	-	+
11.	Klebsiella spp.	4	+	+	+	-	-	-	+	-	+
12.	Pseudomonas spp.	7	-	+	-	-	-	+	+	+	+

VP: Voges Proskauer test , MR. : Methyl red test.

N	Type of isolates	No. of isolates	Suger fermentation from											Growth in 6.5% NaCl
			Xylose	Arabinose	Raffinose	Sucrose	Mannitol	Mannose	Trehalose	Lactose	Ribose	Maltose	Glucose	
1.	<i>Staphylococcus xylosus</i>	13	+	+	-	+	±	+	+	±	±	+	/	/
2.	<i>Staph. saprophyticus</i>	6	-	-	-	+	+	-	+	±	-	±	/	/
3.	<i>Staph. aureus</i>	5	-	-	-	+	+	+	+	+	+	+	/	/
4.	<i>Staph. arlettae</i>	4	+	+	+	+	+	±	+	+	+	+	/	/
5.	<i>Micrococcus luteus</i>	2	+	-	-	-	+	-	+	-	-	+	-	/
6.	<i>Streptococcus pyogenes</i>	6	±	-	-	+	±	-	+	+	-	+	+	-
7.	<i>Strep. equi subsp. zooepidemicus</i>	5	-	-	-	±	-	-	-	+	+	±	+	-
8.	<i>Enterococcus avium</i>	6	+	+	-	±	+	-	+	+	+	-	+	+
9.	<i>En. faecalis</i>	6	-	-	-	+	+	-	+	+	-	-	+	+
10.	<i>En. durans</i>	4	-	-	-	-	-	-	±	+	+	-	+	+
11.	<i>Corynebacterium cystitidis</i>	6	+	-	-	-	-	-	+	-	-	-	+	/
12.	<i>Co. kutscheri</i>	5	-	-	-	+	-	+	±	-	-	+	+	/
13.	<i>Co. xerosis</i>	3	-	-	-	+	-	+	-	-	-	+	+	/
14.	<i>Bacillus subtilis</i>	7	-	+	±	+	+	+	-	±	-	+	+	-
15.	<i>E. coli</i>	8	±	+	-	-	+	+	+	-	-	+	+	/
16.	<i>Pasteurella multocida</i>	6	±	±	-	+	+	+	±	-	-	-	+	/
17.	<i>Gallibacterium anatis</i>	2	+	-	±	±	+	+	+	+	-	-	+	/
18.	<i>Proteus vulgaris</i>	3	+	-	-	+	-	-	±	-	-	+	+	/
19.	<i>Pr. mirabilis</i>	3	+	-	-	-	-	-	+	-	-	-	+	/
20.	<i>Klebsiella pneumoniae</i>	4	+	+	+	+	+	+	+	+	-	+	+	/
21.	<i>Pseudomonas aeruginosa</i>	7	+	-	+	-	+	-	-	-	-	-	+	/

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(%36)

(%31.5)

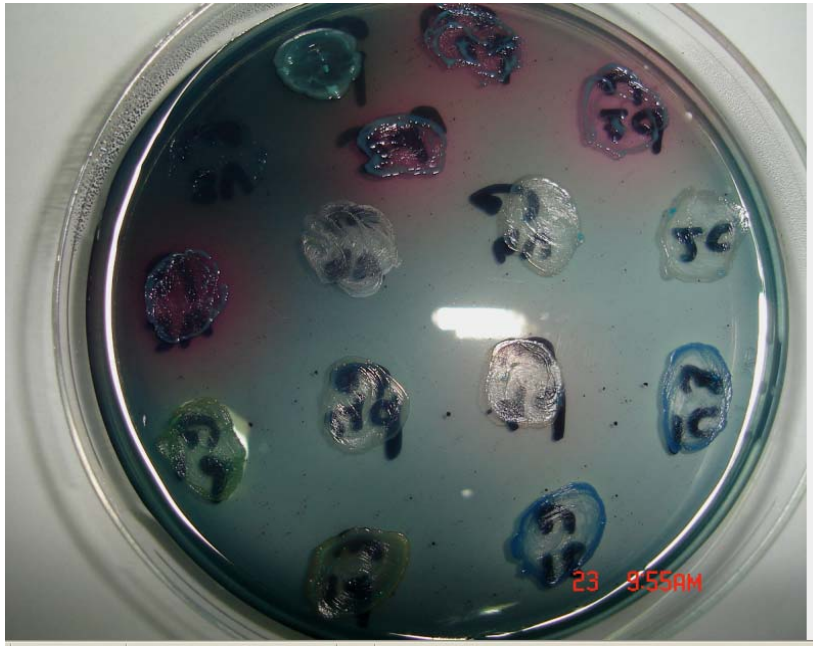
(%46.85)

(%43.2)

:4

Sl. No.	Type of isolates	No. of isolate	Urease	DNase	Gela.	Haem.
1.	<i>Staphylococcus xylosus</i>	13	13	4	13	2 α , 4 β
2.	<i>Staph. saprophyticus</i>	6	6	2	-	1 β
3.	<i>Staph. aureus</i>	5	2	5	5	5 β
4.	<i>Staph. arlettae</i>	4	-	-	-	-
5.	<i>Micrococcus luteus</i>	2	-	1	2	-
6.	<i>Streptococcus pyogenes</i>	6	-	6	-	6 β
7.	<i>Strep. equi subsp. zooepidemicus</i>	5	-	-	-	5 β
8.	<i>Enterococcus avium</i>	6	3	3	-	3 α
9.	<i>En. faecalis</i>	6	-	6	-	2 α , 2 β
10.	<i>En. durans</i>	4	-	-	-	2 β
11.	<i>Corynebacterium cystitidis</i>	6	6	-	-	-
12.	<i>Co. kutscheri</i>	5	5	-	-	-
13.	<i>Co. xerosis</i>	3	-	-	-	-
14.	<i>Bacillus subtilis</i>	7	-	-	7	7 β
15.	<i>E. coli</i>	8	-	-	-	-
16.	<i>Pasteurella multocida</i>	6	-	-	-	-
17.	<i>Gallibacterium anatis</i>	2	-	-	-	2 β
18.	<i>Proteus vulgaris</i>	3	3	2	3	2 α
19.	<i>Pr. mirabilis</i>	3	3	2	3	1 α
20.	<i>Klebsiella pneumoniae</i>	4	4	-	-	-
21.	<i>Pseudomonas aeruginosa</i>	7	7	4	7	1 α , 3 β
Total		111	52	35	40	48
%			46.85	31.5	36	43.2

Gela. : Gelatinase test, Haem.: Haemolysine test.



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:5

γ β α

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	%80	%100	Collared dove
111		.	%20
		21	12

.(Hupton *et al.*, 2003)

(Poiani , 2010)

E. coli Micrococcus spp. *Staph. xylosus*

Proteus *Staph. aureus* *E. coli*

(Poiani, 2002)

Bacillus spp. Corynebacterium spp. β - hemolytic Strep. spp. spp.

Enterococcus spp. (%14.4)

Streptococci group D

(Barbosa *et al.*, 2010 Koneman *et al.*, 1997)

(Mohamed, 2008)

Streptococcus spp. (% 9.9)

(De Herdt *et al.*, 1994)

Staph. xylosus *Staph. saprophyticus* *Ps. aeruginosa*

Corynebacterium spp. (%12.6)
 (Koneman *et al.*, 1997)
 .(Camello *et al.*, 2003)
 (%7.2) *E. coli*
 (Bisgaard, 1995) (Hirsh *et al.*, 2004)
.Pa. multocida E. coli
 (%5.4) *Pa. multocida*
 (Rupiper, 1998)
 .(Bisgaard, 1995)
. Ga. anatis (%1.8)
Pa. anatis Pa. haemolytica Pasteurellaceae
 .(Neubauer *et al.*, 2009)
Co. cystiditis Staph. saprophyticus Staph. xylosus (%46.85)
Ps. aeruginosa Kl. pneumoniae Proteus spp. Co. kutscheri
 Koneman Holt *et al.*, 1994) *En. avium Staph. aureus*
 (*et al.*, 1997)
 .(Balan *et al.*, 2012)
Staph. (%31.5)
En. (Gemmell and Ford, 2002) *Strep. pyogenes aureus*
 (Alebouyeh *et al.*, 2005) *faecalis*
Ps. aeruginosa

Staph. Staph. xylosus (Mulcaly *et al.*, 2010)

Proteus spp. *Mi. luteus* *En. avium saprophyticus*

(Holt *et al.*, 1994)

DNA

(Sumbly *et al.*, 2005)

Staph. (%36)

Ps. aeruginosa Proteus spp. *Ba. subtilis* *Mi. luteus* *Staph. aureus* *xylosus*

(Hirsh *et al.*, 2004) (Holt *et al.*, 1994)

(Alexander and Strete, 2001)

Strep. equi *Strep. pyogenes* *Staph. aureus*

Staph. xylosus *Ga. anatis* *Ba. subtilis* *subsp. zooepidemicus*

Ps. aeruginosa Proteus spp. *En. durans* *En. faecalis* *En. avium* *Staph. saprophyticus*

(%43.2)

Neubauer *et al.*, ; Quinn *et al.*, 2004 ; Hirsh *et al.*, 2004 ; Gemmell and Ford, 2002)

(2009)

(Goebel *et al.*, 1988) Cytolysins

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Alebouyeh, M.; Amirmozafari, N.; Forohesh, H. (2005). Evaluation of Virulence factors and plasmid Related transmissibility among different isolates of Enterococci. *Iranian Biomedical J.*, **9**(2), 51 – 55.

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