

Penicillium

/

(2008/8/31 2007/5/7)

28

2003 () /

Candida spp. . 39 2004 ()

Penicillium 9 %48.75

% 26.0 *P.chrysogenum* % 6.5 *P.camembertii* %6.5 *P. Auruntiogriseum*

% 24.0 *P .expansum* % 8.7 *P .decumbens* % 10.9 *P.crustosum* % 6.5 *P.citrinum*

46 %4.4 *P.requefortii* % 6.5 *P .purpurogenum*

%.%3.28

/ $^{4}10 \times 8.54$ $^{4}10 \times 5.48$ () ()

/ $^{4}10 \times 1.72$

$^{4}10 \times 1.41$

$^{4}10 \times 1.69$

/

. $^{4}10 \times 1.1$

$^{4}10 \times 1.44$

Isolation and Identification of *Penicillium* Species from Indoor Dust of Mosul Buildings / IRAQ

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ABSTRACT

The study identified 28 fungal genera isolated from house dust samples collected from different areas East and West Mosul city during October 2003 and February 2004. A total of 39 species were identified from the 28 genera. *Candida* and related yeast were the most abundant (48.71%) followed by *Aspergillus* (9.7 %) of with 9 species.

Nine species of *Penicillium* were identified ;*P.aurantiogriseum* (6.5%), *P. camembertii* (6.5%), *P.chrysogenum* (26.0%), *P.citrinum* (6.5%), *P.crustosum* (10.9%), *P.decumbens* (8.7%), *P.expansum* (24.0%), *P.purpurogenum* (6.5%) and *P. requefortii* (4.4 %) and the total isolates was 46 (3.28 %). The total number of Colony Forming Units (C.F.U.) in October 2003 was 5.48×10^4 /gm dust while in February 2004 it was 8.54×10^4 /gm dust. As regards the locations of samples the C.U.F. were in houses 1.72×10^4 in kindergartens 1.69×10^4 ; primary schools 1.41×10^4 ; intermediate schools 1.44×10^4 and secondary schools 1.1×10^4 .

.(Scott, 2001)

.(Bronswijk, 1980)

.(2001) ° 30
 %90
 (Reijula, 1996)
 .(Husman, 1996)
 (Gunderman, 1974)
 .(Abdel Hameed, 1996) (Camann *et al.*, 1980)
 .(Bronswijk, 1981)
 .(Clark *et al.*, 1983)

Penicillium

.(de Hoog *et al.*, 2000 Samson *et al.*, 1997)

Samples collection :

)
 (15
 15
 (2004) 15 15 (2003)

(Sabauraud's agar)

5.6

² 1/ 15 121

/ 100

Isolation and Identification of Fungi :

	1	(2001)	Dharmage
10			90
	9		1
7	28		3

Ellis, 1971 Booth, 1971 Arx, 1970)

.(Pitt and Hocking, 1997 deHoog and Guarro, 1995 Domsch *et al.*, 1980

10

10

10

20

.(1973 ,)

Isolation and Identification of *Penicillium* species :

Penicillium

(CYA) Czapek Yeast Extract

(MEA) Malt Extract Agar

Penicillium

.(G25N) %25 Glycerol Nitrate Agar

Cork borer

. 7 28

%70

7

/ / 3

37 25 5

Penicillium

.(Pitt and Hocking, 1997)

)

(

26

Trichophyton

(Frey *et al.*, 1979)

$^{4}10 \times 1.44$

$^{4}10 \times 1.41$

$^{4}10 \times 1.69$

/

Abdel Hameed

$^{4}10 \times 1.1$

(1996)

.(1)³ / $^{4}10 \times 4.32$

39

28

(2)

Candida

$^{4}10 \times 14.02$

$^{4}10 \times 6.83$

A.

(% 9.70) *Aspergillus*

% 48.71

(%19.1) *A. flavus*

(% 54.5) *Niger*

Eurotium

(%2.2) *Emericella*

%3.7

Neosartorya

$^{3}10 \times 7.6$

Aspergillus

(%0.7)

$^{3}10 \times 6.0$

(Latge, 1999)

(16.70)

(20.24)

(Domsch *et al.*, 1980) 33

A. flavus

(Youssef and Refai, 1986)

Rhizopus

(%15.8)

% 8.2

$^{4}10 \times 1.15$

$^{4}10 \times 4.6$ $^{4}10 \times 6.9$

(2) % 6.34 *Cladosporium*
 195 Hocking Pitt (1997)
C. herbarum %44 *Cladosporium*
Cladosporium . *C. cladosporioides*
 (Hocking, 1994)
 / ²10×54 2004
 1986 Refai Youssef (2003)
 .(1)
 %4.5 *Alternaria alternata*
 Farr *et al.*(1989) .
 Otten Burge (1999)
 / ⁴10×1.72
 / ⁴10×1.69
 / ⁴10×1.1
 % 60.9 %39.1 / ⁴10×0.3
 .(2)
 : *Penicillium*
 (3) *Penicillium* 46
P.chrysogenum 9 %3.28
Penicillium ,
P. chrysogenum .(3)
P.expansum %26.0 46 12
P.roquefortii . 11 %24.0
P. aurantiogriseum .%4.4 2

23

2-

()

.(Pitt and Hocking, 1997, Mislivec and Tuite, 1970)

: 1

$/ \times 10^2$						
					*	
169	169	130	130	39	39	
141.5	283	211	94	72	30	
			117		42	
144.5	289	146	56	143	48	
			90		95	
110	220	109	71	111	78	
			38		33	
172	172	127	127	45	45	
82	82	48	48	34	34	
78	78	27	27	51	51	
79	79	42	42	37	37	
30	30	14	14	16	16	
%100	1402	854		548		
		60.9		39.1		%

.(2004)

15 2 15 :

(2003) 2 15 1 15

•

:2

/ ² 10×				
%				
0.07	1	-	1	<i>Absidia sp.</i>
0.28	4	3	1	<i>Acremonium sp.</i>
0.07	1	1	-	<i>Allesheriella sp.</i>
4.50	63	36	27	<i>Alternaria alternata</i>
9.70	136	60	76	<i>Aspergillus and their telemorph – (12 species)</i>
0.71	10	-	10	<i>Aureobasidium pullulans</i>
48.71	683	456	227	<i>Candida and other Yeast</i>
0.14	2	2	-	<i>Chaetomium spp.</i>
0.49	7	-	7	<i>Chrysosporium spp.</i>
6.34	89	54	35	<i>Clodpsporium spp. (3 species)</i>
0.07	1	-	1	<i>Curvularia sp.</i>
0.35	5	3	2	<i>Drechslera spp.</i>
0.35	5	3	2	<i>Fusarium spp. (3 species)</i>
1.56	22	7	15	<i>Geotricum candidum</i>
0.14	2	-	2	<i>Macrophomina phaseoline</i>
2.99	42	41	1	<i>Mucor spp.</i>
1.22	27	27	-	<i>Myceliophthora spp.</i>
3.28	46	22	24	<i>Penicillium spp (9 species)</i>
1.78	25	22	3	<i>Pythium sp.</i>
1.35	19	3	16	<i>Rhizoctonia solani</i>
8.27	115	69	46	<i>Rhizopus stolonifer</i>
0.28	4	-	4	<i>Scopulariopsis spp.</i>
0.85	12	8	4	<i>Scytalidium spp.</i>
0.07	1	-	1	<i>Sphaeropsis sp.</i>
1.06	15	9	6	<i>Stemphylium herbarum</i>
0.14	2	1	1	<i>Syncephalastrum racemosum</i>
0.71	10	-	10	<i>Trichoderma spp.</i>
3.78	53	27	26	<i>Trichophyton spp. (4 species)</i>
100	1402	854	548	

%		
6.5	3	<i>Penicillium aurantiogriseum</i>
6.5	3	<i>P. camembertii</i>
26.0	12	<i>P. chrysogenum</i>
6.5	3	<i>P. citrinum</i>
10.9	5	<i>P. crustosum</i>
8.7	4	<i>P. decumbens</i>
24.0	11	<i>P. expansum</i>
6.5	3	<i>P. purpurogenum</i>
4.4	2	<i>P. roquefortii</i>
100	46	

.()

2001

<http://www.islamonline.net/arabic/science/2001/06/artical10.shtml>

.1973 .

.155 , .

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