تم نقل ميكونوبلازمكا وميكونوبلازمك مجموعة الأنثيوبياكتربياسى من 123 طائر حي.

87 طائر ميت يمثلون ستة أنواع من الطيور الطائقة والمهاجرة تم أصطيادها من محافظة أسوان وكانت هذه الطيور هي الصافير، الليماء، أبو قصادة، اليوم، الهدهد، البسليك.

الطيران المائي، والتصنيف البيولوجي، لعشرات الميكونوبلازمكا ثبت أنها م. جالسيكسم، 

M. جالسيكسم، M. كولبيمي، M. كويتيني، وM. التربست، وM. كليسيلا، والتي لم تكن تصنفها. وعمل

الاختيارات البيولوجي، والتصنيف البيولوجي يمكن تصنيف ميكونوبلازمك مجموعة الأنثيوبياكتربياسى إلى 

الميكونوبلازمكا، والميكونوبلازمكا، والتي لم تكن تصنيفها.

ويمكن القول بأن الطيور الطائقة والمهاجرة تعزب دوراً ميكروبيكير بيولوجيا في نقل هذه

الميكونوبلازمكا لماراج الدواجن.
THE ROLE PLAYED BY FREE FLYING BIRDS IN THE TRANSMISSION OF AVIAN PATHOGENS

II. MYCOPLASMA AND ENTEROBACTERIACEAE

By
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and M. ATIA**
(Received at 21/11/1987)

SUMMARY

Mycoplasmas and Enterobacteriaceae could be isolated and identified from 213 living and 87 dead free flying birds and migratory fowls captured from Assuit Governorate. According to the growth precipitation, growth inhibition, and immuno-fluoresence tests, M. gallisepticum, M. gallinarum, M. columbinum, A. laidlawii and untyped Mycoplasmas could be identified. On the basis of biochemical and serological tests, E.coli, Salmonella sp., Klebsiella, Proteus, Enterobacter, and unidentified types could be isolated.

It could be concluded that free flying birds play a mechanical and biological role in transmission of Mycoplasmas and Enterobacteriaceae to poultry farms.

INTRODUCTION

Free flying birds play a mechanical and biological role in transmission of mycoplasma to poultry farms. (KLEVEN and FLETCHER, 1983; STALKNECHT, et al. 1982).


Mycoplasma was isolated from wild type turkey living in close contact to domestic turkeys. JESSUP, et al. 1983, from throat of three apparently healthy PUMAS; HILL, 1986, from racing pigeons, REECE, et al. 1986 a, and also was isolated from Japanese Quail, partridges and golden pheasants, REECE, et al. 1986 b.

EL TAHHER, et al. 1986 recovered Mycoplasma gallisepticum and Mycoplasma gallinarum from tree Sparrows in Sharkia province.


This work was designated to describe the role of some free flying birds in transmission of mycoplasmas and Enterobacteriaceae to poultry farms in upper Egypt.

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MATERIAL and METHODS

Free flying birds:

213 living free flying birds and 87 dead birds representing six species, (Passer domesticus, Turtur sengalensis, Strix flammea, Upupa epops, Motacilla flava) and migratory water fowls, (Anas C. crecca, Gallinula chloropus, Fulica arta arta), were captured from different localities in Assiut Governorate.

Isolation and characterization of Mycoplasmata:

Swabs from cloaca, trachea, lung and air sacs were collected on brain-heart infusion broth, then subcultured on brain heart infusion agar, SABRY, 1968. Agar plates were incubated under low oxygen tension and humidity. Plates were examined microscopically for the presence of the common fried egg colonies. The suspected colonies were subjected to bacterial reversibility, purification, biochemical identification as described by, FREUNDT, et al. 1979. Serological identification of isolates was achieved by using the Growth inhibition test, CLYDE, 1964, Growth precipitation test, KROGGSGARD-JENSEN, 1972 and indirect-immune-fluorescence antibody test after AL-AUBAIDI, et al. 1971.

Isolation and Identification of Enterobacteriaceae:

Direct cultures were made from liver, intestine and rectum on enrichment media, (Nutrient, Selenite F-broth and tetraionate broth) as well as on selective media (S.S. McConkey, Brilliant green agar), CRUCKSHANK, et al. 1973. Enriched and selective media were incubated aerobically and micro-aerobically for 18-24 hrs. at 37°C. Then subjected to further identification according to colony and bacterial morphology and biochemical tests, COWAN, 1974; CRUCKSHANK, et al. 1975 and EDWARDS and EWING, 1972).

RESULTS

Sixty-five Mycoplasma isolates were recovered from examined cloacal, tracheal, lung and air-sac swabs, table 1.

Biogrouping of recovered isolates revealed that 46 isolates were glucose positive and arginine negative, 12 isolates glucose negative and arginine positive, and 7 isolates were glucose positive and arginine positive.

The results of growth-precipitation GP, growth inhibition GI and immuno-fluorescence IF tests typed the isolates as 28 Mycoplasma gallisepticum, 10 Mycoplasma gallinarum, 13 Mycoplasma columbinum, 2 aecholoplasma laidiwii and 12 isolates were untypable, table II.

Table 1 showed that examined samples of the free flying birds revealed the recovery of 162 isolates suspected to be members of enterobacteriaceae group.

Further biochemical and serological characterization grouped the isolates as 81 Echerachia coli, 50 Salmonella species, 6 klebsiella, 17 Proteus, 2 Entrobacter, and 6 isolates were unidentified, table III.
DISCUSSION

Our results showed that examined free flying birds are susceptible to infection with Mycoplasmas, this is in agreement with reports of Mycoplasma isolation, (JAIN, et al. 1971; SHIMIZU, et al. 1979; KLEVEN and FLETCHER, 1983; BOZEMAN, et al. 1983 and EL-TAHER, et al. 1986.

The frequency of isolation was low with what would be expected in chickens and turkeys. Infection was not accompanied with visible gross lesions suggesting that most of free flying birds are resistant to Mycoplasma infection, KLEVEN and FLETCHER, 1983.

Isolation of Mycoplasma gallisepticum, Mycoplasma gallinarum, Mycoplasma columbinum and Acheloplasma laidlawii which were proved to be pathogenic for chickens, turkeys and pigeons points out the danger of these free flying birds when coming in contact with poultry farms, YODER, 1984.

Recovery of 162 isolates of entrobacteriaeae refers to the susceptibility of these birds to such enteric bacteria. This group of organisms were considered as infectious agents under unvariable conditions attributable to stress factors, GLUNDE, 1981.

Our results revealed the isolation of 50 isolates of Salmonella, in agreement with results of PHILLIPS and HATKIN, 1978, who succeeded in isolation of Salmonella from Cockateil.

Proteus, Entrobacter, Echerichia coli, and Klebsiella organisms were also isolated from examined cases. Similar results were obtained by GLUNDE, 1981 and SAH, et al. 1983.

REFERENCES


### Table (II)
Results of biochemical and serological identification of Mycoplasma isolates

<table>
<thead>
<tr>
<th>Species of the Free living birds</th>
<th>No. of Exam. Isolates</th>
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<td></td>
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<td>Glucose- Arginin+</td>
<td>Glucose+ Arginin+</td>
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<tr>
<td>Upupa epops</td>
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<td>4</td>
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<td>M. tacilla falava</td>
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### Table (III)
Results of differentiation of Enterobacteriaceae isolates

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<th>Species of the Free living birds</th>
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<th>Enterobacteriaceae Isolates</th>
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<td>Motacilla falava</td>
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