

Mallophaga of the Domestic Chicken in the Central Region of Saudi Arabia

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ABSTRACT:

A survey of Mallophaga (chewing lice) of the chicken in the central region of Saudi Arabia was carried out in the present study. Seven species of Mallophaga were detected : Menacanthus pallidulus (Neumann), Menacanthus cornutus (Schommer), Menacanthus stramineus (Nitzsch), Goniodes dissimilis Denny, Goniocotes gallinae (DeGeer), Menopon gallinae (L.), and Amyrsidea sp. The first five species were new records of Mallophaga on the domestic chicken in Saudi Arabia. Amyrsidea sp. was first known to be recorded from domestic chicken and it could be a new species of Amyrsidea.

Key words : Insecta, Mallophaga, chicken, Saudi Arabia

INTRODUCTION

EXTERNAL PARASITES are commonly associated with chickens. Chewing lice are permanent parasites of birds and they are the most widely distributed poultry insects (Devany, 1978). More species of chewing lice may be found on the domestic chicken than on any other known fowl (Emerson, 1956). Emerson (1956) listed eleven species of Mallophaga on domestic chicken belonging to the genera Menopon, Menacanthus, Goniocotes, Goniodes, Oxylipeurus, Cuclotogaster and Lipeurus.

Heavy louse infestation causes, in the hosts, skin irritation and bilitated state of health which eventually leads to a drop in hen's production (Gless & Raun, 1956; Stockdale & Raun, 1960). Aldryhim & Donya (unpublished data, 1988) found that egg production of louse-infested hens was significantly reduced.

Poultry production in Saudi Arabia is becoming of increasing importance, with little previous attention being directed toward the study of external parasites. Abu Yaman (1978) recorded a common body louse, Menopon gallinae, a fowl tick, Argas persicus Oken, and a poultry mite, Dermanyssus sp, on chickens in Saudi Arabia; hence, the objective of this study was designed to provide a survey of Mallophaga ectoparasities of chickens in the central region of Saudi Arabia.

MATERIALS AND METHODS

This survey was conducted in the central region of Saudi Arabia (Al-Kharj and Riyadh areas, Fig. 1) from November 1986 to June 1987. Twenty closed system (controlled system) poultry farms and 30 open system (conventional system) poultry farms were visited in the present study.

The closed system poultry farm birds were white leghorn hens, whereas the open system poultry farm birds were Saudian Baladi breed flock (a native bred closed flock).

One hundred hens were selected randomly from each closed system poultry farm. Twenty hens were selected randomly from each open poultry farm. The selected birds were examined and lice collected from different parts of the body were transferred by a small brush to vials containing 75% alcohol.

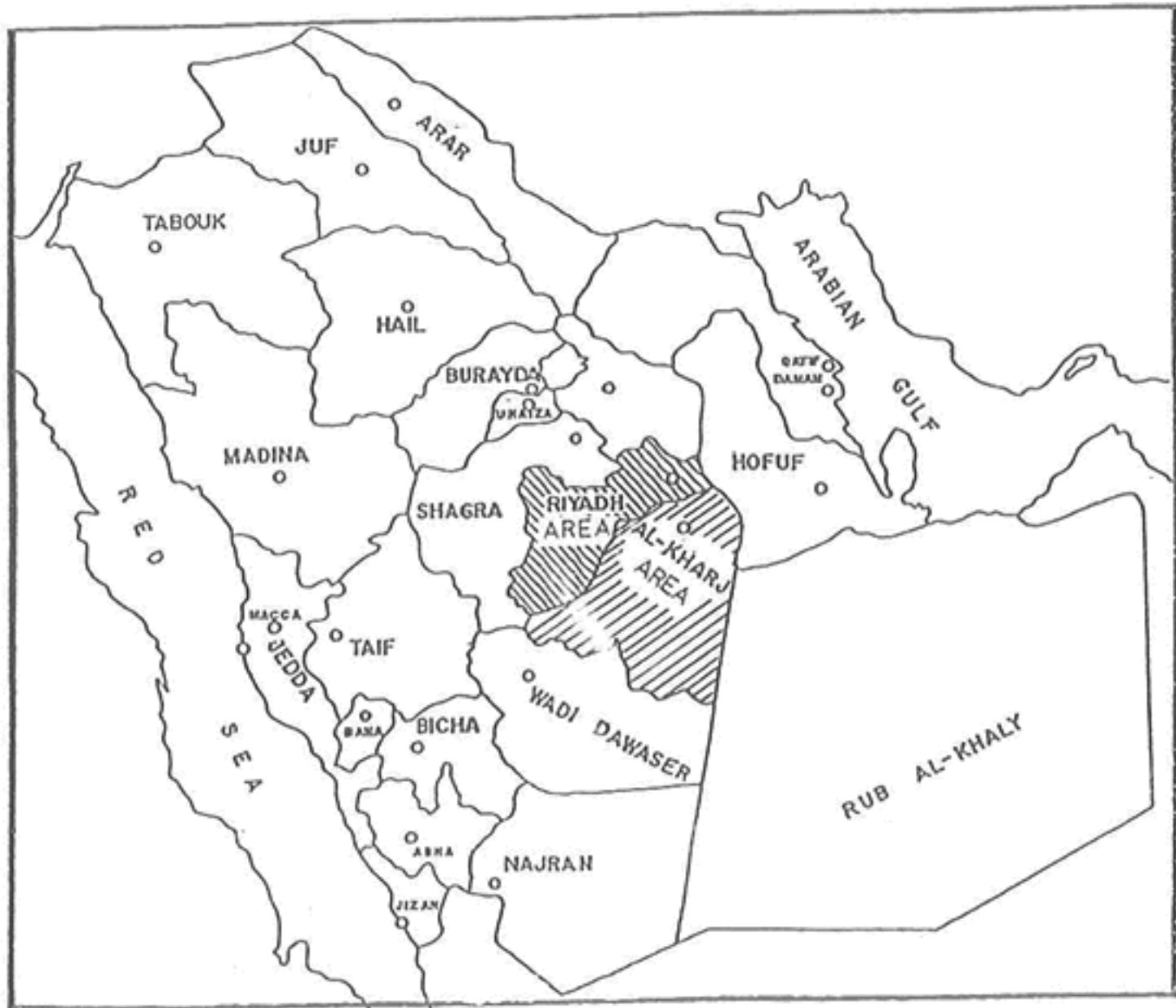


Figure 1. Al-Kharj and Riyadh areas where the survey work was carried out.

Keys given by Emerson (1956) and Tuff (1977) were used for preliminary identification of specimens. Confirmation of identification was done by G. Price, University of Minnesota, and K. C. Emerson, Sanibel Florida.

RESULTS AND DISCUSSION

Nineteen of 20 of the closed system poultry farms were found free from louse infestation. Only one farm's hens were infested by M. stramineus. The degree of louse infestation was relative low in that farm. This was largely due to the periodical sanitation measures undertaken in the closed system farms.

Mallophaga were however, detected in 12 (40%) out of 30 open system farms. Seven Mallophaga species were collected in this study. Those species were M. pallidulus, M. cornutus, M. stramineus, G. dissimilis, G. gallinae, M. gallinae, and Amyrsidea sp. The first five species were recorded for the first time on chicken in Saudi Arabia. However, M. gallinae was previously reported by Abu Yaman (1978).

Amyrsidea sp. was first recorded from domestic chicken. It was found in three farms (25% of the infested farms) mixing with M. pallidulus (Table 1). The degree of Amyrsidea infestation was low. Seventeen specimens of Amyrsidea were collected in the present study. According to Emerson (personal communication 1989), this Mallophaga may possibly be a new species of Amyrsidea. In another personal communication, Price (1988) stated that the domestic chicken is not a host to Amyrsidea sp. He also added that chicken infestation here is probably due to direct contact with other game birds. A wider study for Amyrsidea sp. is suggested to determine its host range and specific identification should be given.

Table 1. Prevalence of mixing louse infestation in 12 domestic chicken farms.1

Lice Species	MP	MC	MS	MSP	MG	GD	GG
MP	2	2		3	1		
MC	2		1				
MS		1			1		1
MSP	3						
MG	1		1			1	
GD					1		
GG			1				

1 where

MP = M. pallidulus, MC = M. cornutus, MS = M. stramineus MSP = Amraysia sp, MG = M. gallinae, GD = G. dissimilis, GG = G. gallinae.

M. pallidulus was found in eight farms (66.7% of the infested farms) (Table 1) and the degree of prevalence was high. It was found singly in two farms, mixed with M. cornutus in two farms, with M. gallinae in one farm, and with Amyrsidea sp in three farms.

M. cornutus, M. stramineus, and M. gallinae each was found in three farms (25% of the infested farms) and each species was found mixing with other Mallophaga species (Table 1).

G. dissimilis and G. gallinae were each detected in one farm (8.3% of the infested farms). However, the degree of infestation was relative high. G. dissimilis and G. gallinae were found mixing with M. gallinae and M. stramineus, respectively.

The absence of some louse genera (such as Oxylpeurus, Cuclotogaster, and Lipeurus) in the present study is probably due to ecological requirements for these lice and a wider study is recommended to verify the absence of these Mallophaga in the Central region of Saudi Arabia.

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القمل القارض المتطفل على الدجاج في المنطقة الوسطى من المملكة العربية السعودية.

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الخلاصة :

تم حصر سبعة أنواع من القمل القارض المتطفل على الدجاج في المنطقة
الوسطى من المملكة العربية السعودية . وهذه الأنواع هي :

Menacanthus , Menaoanthus pallidulus

Goniodes dissimilis, Menacanthus stramineus

Menopon gallinae, Goniocotes gallinae

Amyrsidea sp.

سجلت هذه الأنواع لأول مرة على الدجاج في منطقة الدراسة ماعدا Menopon
gallinae فقد تم تسجيله من قبل . ومن المحتمل ان يكون النوع Amyrsidea sp.
الذي سجل وجوده لأول مرة على الدجاج نوعا جديدا.

كلمات مفتاحية : الدجاج ، السعودية ، القمل القارض ، المتطفل .