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MALLOPHAGA OF DOMESTIC BIRDS OF AHWAZ, IRAN

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ABSTRACT – Mallophaga (biting lice) are ectoparasites of domestic birds including hens, roosters and ducks. They feed on feathers and skin of birds and cause damage in them including shortage of longevity, decreasing the egg production and causing infectious diseases. In this paper Mallophaga were studied among domestic birds in the traditional poultry houses from Ahwaz region, south west of Iran. In this project 40 birds were detected to collect the biting lice from the birds in the poultry houses which located in the different geographical positions of Ahvaz. In total 1200 lice were collected and identified using Allen Walker and Stonjanvich keys and light microscope. All of the collected specimens were recognized as Mallophaga order, Ambelycera sub-order. The collected specimens were determined as *Menacanthus stramineus* sp. and *Menopon* sp. from hens and roosters and *Menacanthus stramineus* from ducks.

Key words: Mallophaga, *Menacanthus stramineus* , *Menopon* sp, domestic birds,Iran

INTRODUCTION

Mallophaga, biting lice, are insect ectoparasites of domestic birds such as hen, rooster and duck. They are divided into two suborders: Ambelycera and Ischnocera. They feed on feathers and skin of birds and cause damage in them including shortage of longevity, decreasing the egg production and causing infectious diseases. However some species belong to *Menacanthus* feed on the bird blood and may transferee bacterial diseases (Njunga, 2002; Vatandoost, 2001).

In this paper fauna of Mallophaga were studied among domestic birds in the traditional poultry houses from Ahvaz region, sw of Iran.The aims of this study were collecting and identifying the biting lice of domestic birds.

MATERIAL S AND METHODS

The suburb of Ahwaz was divided into 4 geographical regions including south, north, west and east. Then the small and traditional poultry houses of these regions were checked for domestic birds which were infected by biting lice over the spring and autumn.Those birds which were studied belong to the orders of Galliformes (including: roosters and hens- *Gallus gallus*) and Anseriformes (including: ducks- *Anas* sp.(Trouern - Trend, 2005).

40 birds (hen, rooster and duck) were skinend off and the skins and feathers were detected to collect the biting lice. Total 1200 lice were collected. They were preserved in the vials containing 5% ethyl alcohol – glycerol solution. The lice were prepared and mounted using enthalen. Finally the specimens were identified using Allen Walker and Stonjanvich keys and light microscope (Hooghogi Rad *et al.* 1996;Hadadzadeh and Khazraee Nia, 1997; USDA). The microscopic photographs were taken.

RESULTS AND DISCUSSION

All of the collected specimens belong to Mallophaga order, sub-order of Ambelycera. The specimens were *Menacanthus stramineus* (figuer1) and *Menopon* sp. from hens and roosters and *Menacanthus stramineus* from ducks.

The results are summarized in the tables 1 and 2 which set-up based on the host and the geographical location.Two species of Mallophaga, *Menacanthus stramineus* and *Menopon* sp. belong to the sub-order of Ambelycera have been collected from hens and roosters, however, only *Menacanthus stramineus* has been collected from ducks in the regions of Ahvaz.

The results show that the occurrence of *Menacanthus stramineus* on hens and roosters was greater than *Menopon* sp. The rate of infection of both ectoparasites were high in all geographical locations of Ahwaz however the rate for *Menopon* sp. was smaller than *Menacanthus stramineus*.

In contrast to the high infection with *Menacanthus stramineus* and *Menopon* on the hens and roosters this rate was very low in the ducks as no *Menopon* was collected from ducks. This shows the predominant of

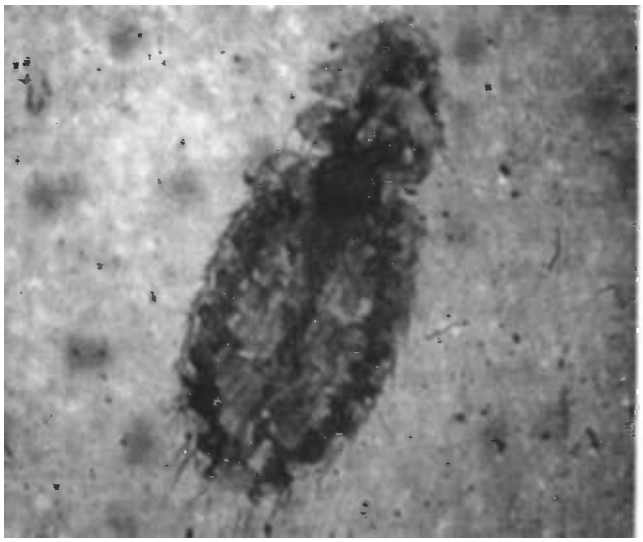

Fig 1.a : Body of *Menacanthus stramineus.*

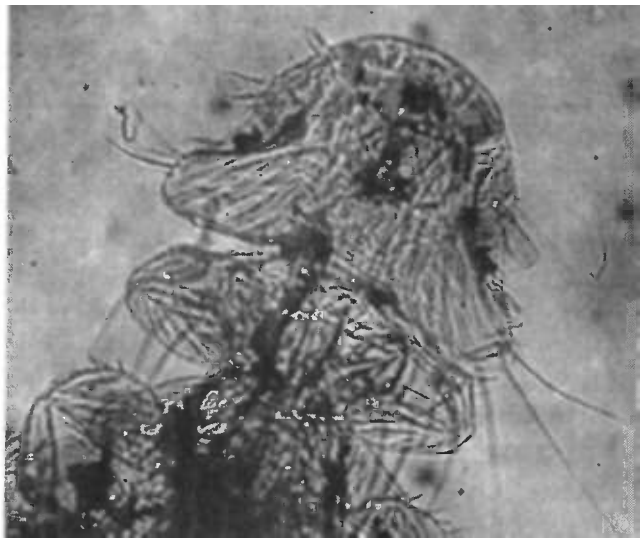

Fig 1.b : Head and thorax of *Menacanthus stramineus.*

Table 1 : Frequencey of collected *Menacanthus stramineus* based on birds and region

Geographical location of Ahvaz	hen/rooster	ducks	total
south	420	5	425
north	321	-	321
west	200	32	232
east	100	-	100
total of ectoparasites based on kinds of birds	1041	37	1078

Table 2 : Frequencey of collected *Menopon sp.* based on birds and region

Geographical location of Ahvaz	hen/rooster	ducks	total
south	30	-	30
north	20	-	20
west	15	-	15
east	52	-	52
total of ectoparasites based on kinds of birds	117	-	117

Menacanthus stramineus in the different locations of Ahwaz region as a pest. It may be concluded that the ecological conditions in this region are very optimistic for *Menacanthus stramineus* distribution and the hens and roosters are the main hosts for this pest too.The high rate of the Mallophaga infection among the hens and roosters indicates stable ecological conditions for increasing of frequency of this pest over the region.

Menacanthus Neumann, 1912 is a cosmopolitan louse genus containing a very large number of species parasitic on species of the avian orders (Price *et al*, 2003). Therefore a lot of wild and domestic birds are at the risk to this parasite. New species of this genus have been reported recently as *Menacanthus rhipidurae* and *Menacanthus bonariensis* by Palma and Price(2005) from NewZealand and Argentina. They were collected from Dicruridae and Fringillidae of Passeriformes(Cicchino, 2003). It shows that this genus not only has a world wide distribution but also ability to infect different groups of birds.

Finally, it is concluded that these pests of birds should be monitored very accurately from point of pest control management.

REFERENCES

Njunga G R (2002) Ecto- and haemoparasites of chickens in Malawi with emphasis on the effects of the chicken louse, Menacanthus cornutus, Master thesis. Central Veterinary laboratory, P.O. Box 527, Lilongwe, Malawi.Department of Veterinary Microbiology and Network for Smallholder Poultry and Development, The Royal Veterinary and Agriculture University, Frederiksberg C., Denmark

Vatandoost H (2001) *Ectoparasites of Medically and verinary Importance.* Tehran Medical Sciences University Publication, Iran 295 pages.

Trouern-Trend J (2005) Systematic List – Iraq and Kuwait February 2004 to February 2005. Iraq bird records - 2003 to present ,http://iraqfauna.wikispaces.com/Iraq+bird+records+-+2003+to+present.

Hooghogi-Rad N, Farazi and Sh. Piazak N(1996) Identification of bovine Ixodidae species in Ahvaz area. *Iranian J. Public Health* **25**, 9-20.

Hadadzadeh H R and Khazraee Nia P (1997) Arthropods of humans and Domestic animals, Tehran University Publication ,Iran. 266.

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Price R D, Hellenthal R A, Palma R L and Clayton D H (2003) World checklist of chewing lice with host associations and keys to families and genera. In: *The chewing lice: world checklist and biological overview.* Illinois Natural History Survey Special Publication 24. pp. i–x and 1–501.

Palma R L and Price R D (2005) *Menacanthus rhipidurae*, a new species of chewing louse (Insecta: Phthiraptera:Menoponidae) from South Island fantails,*Rhipidura fuliginosa fuliginosa* (Aves: Passeriformes: Dicruridae). *NewZealand J. Zool.* **32**, 111-115.

Cicchino A C (2003) *Menacanthus bonariensis* new species Phthiraptera: Menoponidae), parasitic on the White-bellied Sparrow, *Zonotrichia capensishypoleuca* (Todd, 1915) (Aves: Passeriformes: Fringillidae) in Buenos Aires Province, Argentina *Zootaxa* **358,** 1–11.