

**NEW RECORDS OF FOUR CHEWING LICE SPECIES RELATED TO
FAMILY: MENOPONIDAE (MJOBORG, 1910) INFESTED SOME
AQUATIC BIRDS COLLECTED FROM AL-SANAF MARSH,
SOUTHERN THI-QAR PROVINCE, IRAQ**

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ABSTRACT

A total of 30 of aquatic bird specimens belonging to three bird species were examined for the chewing lice infestation. The birds were collected from Al-Sanaf marsh southern Thi-Qar province, Iraq. five out of totally 30 (16.67%) birds were found to be infested with at least one chewing lice species for each bird. Four different species of chewing lice related to Menoponidae family have been recorded from Iraq for the first time. *Actornithophilus piceus lari* (Packard, 1870) isolated from *Larus genei*, *Actornithophilus himantopi* (Blagoveshtchensky, 1951) and *Austromenopon himantopi* (Timmermann, 1954) infested *Himantopus himantopus*, *Colpocephalum leptopygos* (Nitzsch, 1874) isolated from *Plegadis falcinellus*.

KEYWORDS: Chewing lice, Menoponidae, *Actornithophilus piceus lari*, *Actornithophilus himantopi*, *Austromenopon himantopi*, *Colpocephalum leptopygos*, aquatic birds, Iraq.

INTRODUCTION

Only a few studies have been conducted on the chewing lice fauna of birds in Iraq and most of these studies were concerned with chewing lice infested domesticated birds (chickens and pigeons) as Abul-hab^[1] in Baghdad area, Zangana^[2] in different parts of Ninewa province and some parts of Erbil and Duhok provinces, Kareem^[3] in Basra province, Al-Saffar and Al-Mawla^[4] in Al-Mosul city and Al-Iraqi & Hamad-Ameen^[5] in Erbil province, there was a single study about ectoparasites of aquatic birds in Iraq by Mohammad.^[6] Chewing lice are probably the most common and widespread avian ectoparasites^[7], and they are permanent

obligate ectoparasites mostly parasitic on bird species and they feed on feathers and skin scales, although they have mouthparts designed for chewing some species cause skin irritation and suck blood, causing decrease in productivity of the host.^[8]

Menoponidae family were ectoparasites of wide range of avian hosts, genera and species within the Family Menoponidae were identified by their short antennae, concealed in grooves behind the eyes, it may appear as though they have no antennae.^[9] The members of this family used blood as food source and they scratch at the base of the feather in order to obtain this blood by their modified mouth organs as the hypopharynx.^[10]

The aim of current study was to identify the species chewing lice fauna of some aquatic birds in marsh of Thi-Qar province, South of Iraq.

MATERIALS AND METHODS

A total of 30 aquatic birds belonging to three species *Larus genei*, *Himantopus himantopus* and *Plegadis falcinellus*^[11] collected from Al-Sanaf marsh southern Thi-Qar province were examined for the chewing lice infestation. The feathers of each birds were carefully examined, then the birds were placed in nylon bags contain chloroform in cotton pieces for 15 min. Then in the laboratory the lice collected and preserved in 70% ethanol, cleared in 10% KOH and washed with distilled water, passed in alcohol series 70%, 80%, 90% and 99% and then mounted on slides in Canada balsam and examined by light microscope.^[8] The identification of the lice species was carried out according to.^[9,12, 13,14,15,16] The identification of lice were confirmed by Bilal Dik from Selcuk Univ. Turkey.

RESULTS

Three aquatic bird species were collected from Al-Sanaf marsh and examined, these birds related to two orders and three families, (Table 1.).

Four different chewing lice species related to Menoponidae family were identified from three aquatic birds: *Actornithophilus piceus lari* (Packard, 1870), *Actornithophilus himantopi* (Blagoveshtchensky, 1951), *Austromenopon himantopi* (Timmermann, 1954) and *Colpocephalum leptopygos* (Nitzsch, 1874), they have been recorded from Iraq for the first time. (Table 2.).

Table (1): Examined aquatic birds for chewing lice in current study.

Order	Family	Common name of bird	Scientific name of bird
Charadriiformes	1. Laridae	1. Slender-billed Gull	<i>Larus genei</i>
	2. Recurvirostridae	2. Black-Winged stilt	<i>Himantopus himantopus</i>
Ciconiiformes	3. Plegadidae	3. Glossy ibis	<i>Plegadis falcinellus</i>

Table (2): Distribution of infestation of chewing lice according to bird species.

Bird species	No. of examined bird	<i>A. piceus lari</i>		<i>A. himantopi</i>		<i>Au. himantopi</i>		<i>C. leptopygos</i>		Total
		No. of infested bird	%	No. of infested bird	%	No. of infested bird	%	No. of infested bird	%	
<i>L. genei</i>	12	1	8.33	-	-	-	-	-	-	1
<i>H. himantopus</i>	16	-	-	2	12.5	1	6.25	-	-	2
<i>P. falcinellus</i>	2	-	-	-	-	-	-	2	-	2
Total	30	1	3.33	2	6.67	1	3.33	2	6.67	5

1. *Actornithophilus piceus lari* (Packard, 1870)

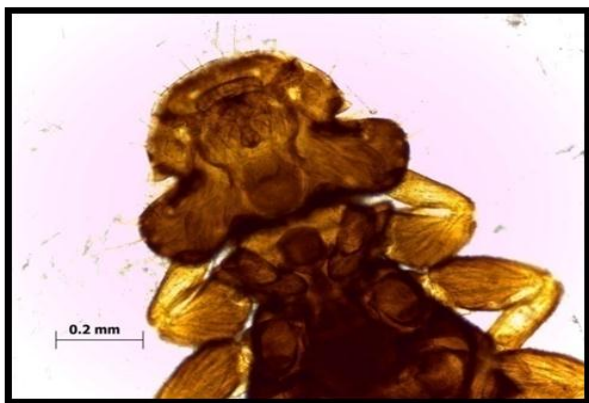
This amblycera lice species were isolated from aquatic birds *L. genei* in current study with percentage 8.33%, male and female were isolated, Photo. 1 (A,B,C,D,E,F).



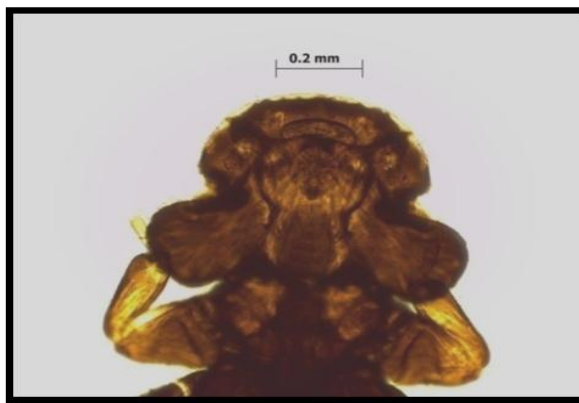
Photo. 1. A. *A. piceus lari* male



B. Female



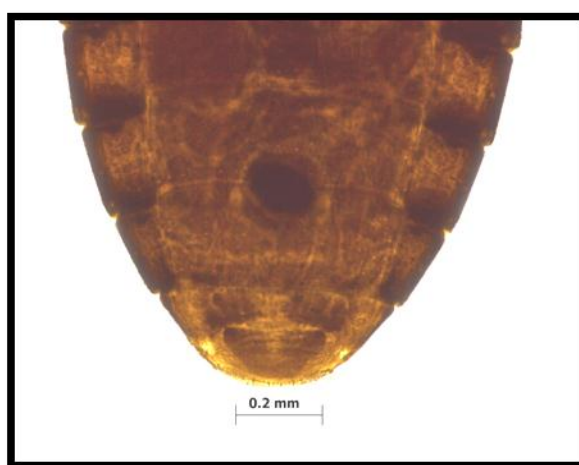
C. Male head



D. Female head



E. Male genitalia



F. Female posterior end

2. *Actornithophilus himantopi* (Blagoveshtchensky, 1951)

This lice species was isolated from two *H. himantopus* aquatic birds for the first time in Iraq in current study with percentage 12.5%, females only were isolated. Photo. 2 (A, B, C).



Photo. 2 A. *A. himantopi* Female



B. Female head



C. Female posterior end

3. *Austromenopon himantopi* (Timmermann, 1954)

This species isolated in current study from *Himatopus himantopus* with percentage 6.25%, only female were isolated in current study, Photo. 3 (A,B,C).



Photo. 7. A. *Austromenopon himantopi*
Female



B. Female head



C. Female posterior end

4. *Colpocephalum leptopygos* (Nitzsch, 1874)

Colpocephalum leptopygos were isolated in current study from *Plegadis falcinellus*, male, female and nymph were isolated, Photo. 4 (A,B,C,D,E).



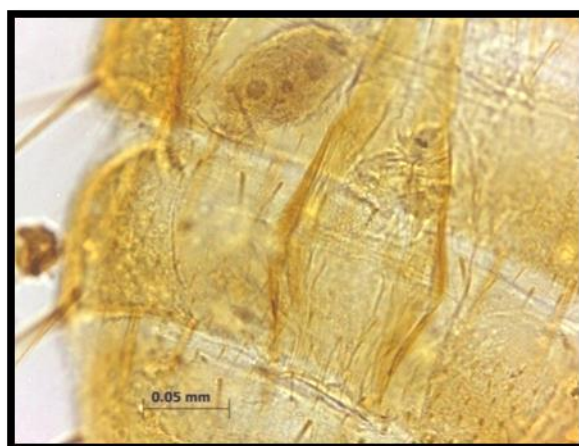
Photo.8. A. *C. leptopygos* male



B. Male head



C. Female



D. Male genitalia



E. Antenna

DISCUSSION

Four species of chewing lice were identified for the first time in Iraq among 30 aquatic birds in Thi-Qar province-South of Iraq, the four lice species: *Actornithophilus piceus lari* (Packard, 1870) isolated from *Larus genei* with percentage 8.33%. *Actornithophilus himantopi* (Blagoveshtchensky, 1951) and *Austromenopon himantopi* (Timmermann, 1954) infested *Himantopus himantopus* with percentage 12.5% and 6.25% respectively, *Colpocephalum leptopygos* (Nitzsch, 1874) isolated from *Plegadis falcinellus*. Mohammad (6) recorded *Actornithophilus*, *Austromenopon* and *Colpocephalum* genera for the first time in Iraq from some aquatic birds in Thi-Qar province. Pilgrim and Palma^[17] reported that the *A. piceus* lice were isolated from Southern Black-backed Gull *Larus dominicanu* and Red-billed Gull *L. novaehollandiae scopulinus* in New Zealand. Stranger and Palma^[18] recorded *A. piceus lari* in the *L. novaehollandiae novaehollandiae* and *A. piceus piceus* in *S. bergii* Western Australia. Forrester and Marilyn^[19] reported *A. piceus lari* in *L. atricilla* in Florida and Ilieva^[20] reported that the *L. genei* infested with *Actornithophilus* sp. in Bulgaria. Vas et al.^[21] reported that the *A. piceus lari* infested: *Larus argentatus*, *L. canus*, *L. delawarensis*, *L. fuscus*, *L. genei*, *L. glaucoides*, *L. hyperboreus*, *L. marinus*, *L. minutus*, *L. pipixcan*, *L. ridibundus*, *Rissa tridactyla*, *Xema sabini* in Hungary.

In Romania Rekasi and Kiss^[22] reported that the *A. himantopi* infested *H. himantopus*. Ilieva^[20] reported that the *H. himantopus* infested with *A. himantopi* in Bulgaria and Vas et al.^[21] reported the same lice from *H. himantopus* in Hungary. Price and clay^[14] revealed that the genus *Austromenopon* occur on hosts related to three bird orders Procellariiformes, Charariiformes and Pelecaniformes, they recognized nineteen species of *Austromenopon* and described three new species. *Austromenopon* acted as a vector of the *Eulimdana* (filarial worms) parasitized charadriiform hosts, although long-term effects of that nematode on the host life cycle had not been studied.^[23]

Austromenopon lice were also hematophagous ectoparasites, and the high loads may reduce host condition.^[24] Rekasi and Kiss^[22] reported that the *Au. himantopi* infested *H. himantopus* in Romania and it also isolated from black stilt *H. novaehollandiae*.^[25] The lice species *C. leptopygos* infested *P. falcinellus* birds (Ciconiiformes: Plegadidae). The genus *Colpocephalum* includes about 100 species parasitized on ten orders of bird hosts, Price and Beer^[26] recognized and discussed forty three species of *Colpocephalum* parasitized on Ciconiiformes, nineteen of these were newly described.

In North America Malcomson^[27] reported that the *C. leptopygos* isolated from Glossy Ibis *P. falcinellus* and Pilgrim and Palma^[17] reported that the same lice were isolated from the same bird in New Zealand. Ilieva^[20] reported that the *P. falcinellus* infested with *C. leptopygos* in Bulgaria and Vas *et al.*^[21] reported that the *C. leptopygos* infested *P. falcinellus* in Hungary.

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