INCIDENCE OF ECTOPARASITES ASSOCIATED WITH RODENT SPECIES Mus musculus L. AND Arvicanthus niloticus desmarest.
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ABSTRACT

Three families of ectoparasites associated with wild house mouse were recorded as Macronyssidæ, Laelapidae and Dermanyssidæ, the first family represented by 4 species i.e Omithonyssus bacoti (Hirst), Hirstonyssus sp., Steatonyssus sp. and Omithonyssus sp., the second was represented by 8 species i.e Laelaps kegani, Laelaps humeralta, Laelaps thammonyis Taufifeeb, Laelaps barazzai, Laelaps vansomeri, Haemagamasus pontiger, Hypoaspis sarcoa and Androlaelaps casalis casalis and family Dermanyssidæ was represented by species (Dermanyssus gallinae).

Three species of flea and four species of lice associated with wild house mouse and Nile rat. Five species of mites associated with Nile rat belonging 2 families, family Macronyssidæ and family Laelapidae.

INTRODUCTION

Rats and mice not only cause great economic loss but are also vectors of human disease. They harbor at least eleven different species of intestinal parasites that may be transmitted to man, such as tape worms, round worms and trichina worm. They also are the reservoirs for the infective agents of typhus and rat bite fever. Salman and Maher (1979) recorded six species of mites on A. niloticus (Desm.) R. rattus frugivorus and R. rattus alexandrinus in Assiut Governorate. The identified mite species were higher on the Nile rat than on the other species.


In Vietnam, Olson (1969) recorded that X. chespis was the commonest rodent flea of which 94 % were harbored by R. rattus (Linn). During the dry season X. cheopis index at less three fold per month.

Riffaat et al., (1969) recorded that R. norvegicus Berk. exhibited the highest general infestation rate and flea index in upper Egypt, where the weather tended to be continental and dry. On the other hand R. rattus (Linn.) exhibited a lower infestation rate and flea index. The oriental rat flea X.
cheopis proved to be the most dominant species, followed by the carflea C.felix felix. The human flea P. irritans has been recorded on R.norvegicus Berk., in Upper Egypt and showed minor affinity to infest his rat.

Abdel-Gawad (1979) showed there were two species of fleas parasitizing rodents. Mourad (1997) recorded three fleas species and two lice species on rodents in Ismailia governorate. The present study is to investigate the incidence of some ectoparasites on rodent species.

MATERIALS AND METHODS

Observation of ectoparasites associated with rodent species on body rodents:

Chloroform was preferably used for killing trapped rodents and ensuring complete anesthesia of ectoparasites. Rodents were individually brushed off on a deep white plate using a relatively hard brush. They were caught upright from the tail with the head directed down wards. The ectoparasites were counted and temporarily preserved in separate labeled vials containing 70 % ethanol. For mounting, these fleas and lice were preserved in 70 % alcohol, they were dehydrated in descending grades of alcohol (50 % and then 30 %) for 15 minutes each change and then transferred to 10 % potassium hydroxide after puncturing the specimens on the ventral side and left overnight until soft parts were dissolved. The specimens were then washed thoroughly in distilled water, slightly acidified with acetic acid to neutralize the alkali and transferred to ascending grades of alcohol, 50, 70, 90 and 96 % each change for 15 minutes and then 2 changes in absolute alcohol for 2-3 minutes. The materials were cleared in xylol for 2-3 minutes. Mounting was performed in Canada balsam. Slide were left to dry in an oven at a moderate temperature (40°C).

Mites preserved in 70 % alcohol were directly mounted in modified Berlese medium (Hoyer's) which was prepared according to Baker and Wharton (1959) as follow:

- Distilled water........... 50 ml.
- Gum Arabic ...............30 g.
- Chloral hydrate ...........200 g.
- Glycerine .................20ml.

RESULTS AND DISCUSSION

Ectoparasites associated with rodents.
Ectoparasites associated with wild house mouse. [Table 1]
1-The results illustrated the occurrence of 13 species of mites associated with wild house mouse belonging to family Macronyssidae and order (parasitiformes) as shown in Table (1).
2-Three species of flea associated with Wild house mouse, Mus musculus represented by family (pulicidae) and belonging to order (Siphonaptera).
3-Four species of lice associated with Wild house mouse, belonging to 2 order. The first order Mallophaga was represented by one family (Philopteridae) and one species *Virgula meleagridis* while the second order Anoplura was represented by 3 families; each family was represented by one species (Table 1).

**Table (1): Ectoparasites (Mites, fleas and lice) associated with wild house mouse Mus Musculus L., during two successive years (2001 and 2002).**

<table>
<thead>
<tr>
<th>Parasites</th>
<th>Order</th>
<th>Family</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mites</td>
<td>Parasitiformes</td>
<td>Macroneyssidae</td>
<td><em>Ornithonyssus bacoti</em> (Hirst)</td>
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<td></td>
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<td><em>Hirstionyssus sp.</em></td>
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<td><em>Steatonyssus sp.</em></td>
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<td><em>Ornithonyssus sp.</em></td>
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<td></td>
<td>Laelapidae</td>
<td><em>Laelaps kegani</em> (Thurman)</td>
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<td><em>Laelaps humerata</em> (Evans &amp; Till)</td>
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<td><em>Laelaps thammomys Tauffeiib</em></td>
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<td><em>Laelaps barazai</em></td>
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<td><em>Laelaps vansomeri</em></td>
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<td><em>Haemagamasus pontiger</em></td>
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<td><em>Hypoaspis sardoa</em></td>
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<td><em>Androlaelaps casalis casalis</em></td>
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<td></td>
<td></td>
<td>Dermanyssidae</td>
<td><em>Dermanyssus gallinae</em></td>
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<tr>
<td>Fleas</td>
<td>Siphonaptera</td>
<td>Pulicidae</td>
<td><em>Hoplopsilus anomalus</em> Baker</td>
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<td></td>
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<td></td>
<td><em>Ctenocephalus canis</em> Curtis</td>
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<td><em>Xenopsila cheopsis</em> Roths</td>
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<tr>
<td>Lice</td>
<td>Mallophaga</td>
<td>Philopteridae</td>
<td><em>Virgula meleagidis</em></td>
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<td></td>
<td>Anoplura</td>
<td>Haematopinidae</td>
<td><em>Polyplax spinulosa</em></td>
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<td></td>
<td></td>
<td>Pediculidae</td>
<td><em>Pediculus humanus</em></td>
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<td></td>
<td></td>
<td>Phthiriidae</td>
<td><em>Phthirus pubis</em> Linn.,</td>
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</tbody>
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**Ectoparasites associated with Nile rate [Table 2].**
1-Five species of mites associated with Nile rate belonging to 2 families and order (Parasitiformes), family Macronyssidae was represented by 4 species and family Laelapidae was represented by one species (Table 2).
2-Three species of flea associated with Nile rate, *Arvicanthis niloticus* order (Siphonaptera) and family (Pulicidae). (Table 2).
3-Four species of lice associated with Nile rat, belonging to 2 orders. The first order Mallophaga was represented by one family (Philopteridae) and one species while the second order Anoplura was represented by 3 families, each family was represented by one species (Table 2).
Table (2): Ectoparasites (Mites, fleas and lice) associated with Nile rat *Arvicanthis niloticus* Desm., during two successive years (2001 and 2002).

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<td></td>
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<td>Steatonyssus sp.</td>
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<td>Omithonyssus sp.</td>
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<td></td>
<td></td>
<td>Laelapidae</td>
<td>Haemagamasus pontiger</td>
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<tr>
<td>Fleas</td>
<td>Siphonaptera</td>
<td>Pulicidae</td>
<td>Hoplopsilus anomalus Baker</td>
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<td>Ctenocephalus canis Curtis</td>
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<td>Xenopsila cheopis Rothys</td>
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<tr>
<td>Lice</td>
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<td>Philopteridae</td>
<td>Virgula meleagidis</td>
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<td>Polyplax spinulosa</td>
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<td>Anoplura</td>
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<td></td>
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<td>Phthiriidae</td>
<td>Phthirius pubis Linn.,</td>
</tr>
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REFERENCES


الطفيئيات المصاحبة للقوارض: فؤورة المنازل وجرز الحقن النيلي

بسمة محمد أبو النور وأماني علي عبد السلام بكر

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الطفيئيات المصاحبة لفؤورة المنازل

1- أوضحت النتائج وجود 13 نوع من الحلم المصاحبة لفؤورة المنازل تنتمى لสาม فصائل ورتبة واحدة:

 Parasitiformes:

- فصيلة Macronyssidae:
  - وسجل منها أربعة أنواع:
    - (Ornithonyssus bacoti, Hiristonyssus sp., Steatonyssus sp., Ornithonyssus sp.)

- فصيلة Laelapidae:
  - وسجل منها ثمانية أنواع:
    - (Laelaps kegani, Laelaps humerata, Laelaps thamomymys, Laelaps barazzai, Laelaps vansomeri, Haemagamaus pontiger, Hypoaspis sardoa, Androlaelaps casalis casalis)

- فصيلة Dermanyssidae:
  - وسجل منها نوع:
    - (Dermanyssus gallinae)

 Siphonaptera:

- (Hoplophilus anomalus Baker, Ctenocephalides canis Curtis, Xenopsila cheopis Roth).

- أوضحت النتائج أربعة أنواع من القلم المصاحبة لفؤورة المنازل تنتمى إلى رتبتين وأربعة فصائل:

 Mallophaga:

- وسجل منها نوع:
  - (L. meleagidis (Linn.)

 Philopteridae:

- وسجل منها نوع:
  - (Anoplura, Polyplax spinulosa, Pediculus humanus, Phthirius pubis)

- فصيلة Haematopinidae:
  - وسجل منها نوع:
    - (Pulicidae, Siphonaptera)

الطفيئيات المصاحبة لجرز الحقن النيلي

- أوضحت النتائج أيضا وجود خمسة أنواع من الحلم المصاحبة لجرز الحقن النيلي تنتمي إلى رتبة واحدة وفصائل:

 Parasitiformes:

- وسجل منها نوع:
  - (Ornithonyssus bacoti, Hiristonyssus sp., Steatonyssus sp., Ornithonyssus sp.)

- فصيلة Haemagamaus sp.:
  - وسجل منها نوع:
    - (Laelaps kegani, Laelaps humerata, Laelaps thamomymys, Laelaps barazzai, Laelaps vansomeri, Haemagamaus pontiger, Hypoaspis sardoa, Androlaelaps casalis casalis)

- فصيلة Dermanyssidae:
  - وسجل منها نوع:
    - (Dermanyssus gallinae)

- فصيلة Mallophaga
  - وسجل منها نوع:
    - (L. meleagidis (Linn.)

- فصيلة Philopteridae
  - وسجل منها نوع:
    - (Anoplura, Polyplax spinulosa, Pediculus humanus, Phthirius pubis)

- فصيلة Haematopinidae
  - وسجل منها نوع:
    - (Pulicidae, Siphonaptera)

- فصيلة Mallophaga
  - وسجل منها نوع:
    - (L. meleagidis (Linn.)

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