ECTOPARASITES FROM ANSERIFORM BIRDS IN MANITOBA

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Abstract
A total of 107 birds were examined of which 78 were positive and 29 were negative. Eight species of ectoparasites were identified from 11 species of birds. It was not uncommon to find two or more species of ectoparasites on a single host specimen. Most of the ectoparasites of anseriform birds are not limited in their occurrence to a given species but are found to be well established on several host species.

Introduction
This study was undertaken to learn the identity of the ectoparasites of anseriform birds in the Delta region and the extensity of their occurrence. A total of 107 birds (53 males and 54 females) including six genera and 11 species were examined. Of the total, 78 were positive and 29 were negative (Table I). The host names were checked according to the latest A. O. U. checklist.

TABLE I
Host list showing percentage infection

<table>
<thead>
<tr>
<th>Species</th>
<th>No. examined</th>
<th>No. infected</th>
<th>% infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatinae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anas acuta Linné (pintail)</td>
<td>7</td>
<td>6</td>
<td>85.7</td>
</tr>
<tr>
<td>Anas coronaria Gmelin (green-wing teal)</td>
<td>7</td>
<td>3</td>
<td>42.9</td>
</tr>
<tr>
<td>Anas discors Linné (blue-wing teal)</td>
<td>27</td>
<td>23</td>
<td>85.2</td>
</tr>
<tr>
<td>Anas platyrhynchos Linné (mallard)</td>
<td>13</td>
<td>6</td>
<td>46.2</td>
</tr>
<tr>
<td>Anas strepera Linné (goosander)</td>
<td>17</td>
<td>11</td>
<td>64.7</td>
</tr>
<tr>
<td>Mareca americana Gmelin (baldpate)</td>
<td>8</td>
<td>4</td>
<td>50.0</td>
</tr>
<tr>
<td>Spatula clypeata Linné (shoveler)</td>
<td>15</td>
<td>13</td>
<td>86.7</td>
</tr>
<tr>
<td>Aya phinae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aythya americana (Eyrton) (redhead)</td>
<td>10</td>
<td>9</td>
<td>90.0</td>
</tr>
<tr>
<td>Aythya affinis (Eyrton) (lesser scaup)</td>
<td>1</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td>Anserinae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White front – blue goose hybrid</td>
<td>1</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td>Cygninae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olor buccinator Richardson (trumpeter swan)</td>
<td>1</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>78</td>
<td>72.9</td>
</tr>
</tbody>
</table>

The ectoparasites were collected and preserved according to a procedure outlined by Bierne (1). A total of eight species of ectoparasites representing four families in three orders were recovered. These included one species of flea, two species of feather mites, and five species of mallophaga. The identifications were checked according to Seguy, Dubinin, Hopkins and Clay, Stark, Keler, and Emerson.

1This work was supported in part by a National Science Foundation Graduate Teaching Assistant Summer Fellowship.

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List of Ectoparasites

**CERATOPHYLLIDAE**

*Ceratophyllum garei* Rothschild 1902

Hosts: *Anas discors*, *Anas strepera*, *Mareca americana*, *Olor buccinator*, *Aythya affinis*.

**ACARINA (SARCOPTIFORMES)**

**ANALGESIOIDES**

Freyana anatina (Koch, 1884)

Hosts: *Anas acuta*, *Anas platyrhynchos*, *Anas strepera*, *Aythya americana*, *Mareca americana*, *Spatula clypeata*.

Freyana largifolia (Dubinin, 1950)

Hosts: *Anas carolinensis*, *Anas discors*, *Anas strepera*, *Mareca americana*, *Spatula clypeata*.

**MENOPODIDAE**

Holomenon nyroca (Blagovestechensky, 1940)

Host: *Aythya americana*.

Trinoton querchedulae (Linné, 1758)

Hosts: *Anas acuta*, *Anas carolinensis*, *Anas discors*, *Anas platyrhynchos*, *Anas strepera*, *Aythya americana*, *Mareca americana*, *Spatula clypeata*.

Trinoton anserinum Denny, 1842

Host: White front—blue goose hybrid.

**MALLOPHAGA (AMBLYCERA)**

**PHILOPTERIDAE**

Anaticola crassicornis (Scopoli, 1763)

Hosts: *Anas acuta*, *Anas carolinensis*, *Anas discors*, *Anas platyrhynchos*, *Anas strepera*, *Aythya americana*, *Mareca americana*, *Spatula clypeata*.

Anatoces dentatus (Scopoli, 1763)

Hosts: *Anas acuta*, *Anas carolinensis*, *Anas discors*, *Anas strepera*, *Aythya americana*, *Mareca americana*, *Spatula clypeata*.

**Discussion**

Ectoparasites, particularly mallophaga, are generally considered to be fairly host specific. The widespread species, *T. querchedulae*, *A. crassicornis*, and *A. dentatus*, seem to be fairly host specific at the subspecies level. However, a comprehensive work for these species is much in need to determine the validity of the subspecies (3, 4).

*Ceratophyllum garei*, primarily a nest flea, was found (in addition to the specimens taken from the body of the hosts mentioned above) in 7 of 10 (70%) *Anas strepera* nests and in 1 (100%) *Aythya americana* nest examined.

*F. largifolia*, formerly a subspecies of *F. anatina*, was raised to species rank by Dubinin (2). The reader is referred to his work for a discussion of this genus.
**Acknowledgments**

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**References**