

BIRD LICE (*MALLOPHAGA*) PARASITING THE BIRDS OF HUNGARY

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Abstract

J. Rékási: Bird lice (Mallophaga) parasiting the Birds in Hungary

A total of 363 *Mallophaga* species and subspecies identified from 183 bird species and subspecies over 100 years are tabulated. The number of bird lice occurring in Hungary can be put at ca. 800 species. The sources used for identification and the scientific papers published on bird lice in Hungary so far are presented in the list of references.

Introduction

Bird lice (*Mallophaga*) have already been considered as a separate order of the Class Insecta of Articulata since the 19th century. Importance of their damage has been mentioned by Schömer (1963). As a result of taxonomic research a total of 2266 species and subspecies have been described (Hopkins and Clay, 1952). The number of species can be put at ca. 4–5000 according to Timmerman (1957). Having completed the evaluation it would approximate to 25 000 (Rotschild and Clay, 1957) or to ca. 48 000 specimens (Eichler, 1963). In Europe approximately 1500 species have been described. Their impact on bird life has been published by Niethammer (1937).

With knowledge of the great variety of the *Mallophaga* sp. populating the earth and their ecologic, economic and hygienic importance this paper offers a survey of the research in Hungary.

Material and method

The *Mallophaga* species found in wild and domestic birds are presented according to host.

Samples fixed in alcohol and macerated with potassium hydrate according to Brelih–Tovornik's method (1964), as well as intact animals embedded in glycerine were identified under a Wild-type binocular stereomicroscope. Permanent specimens were also prepared using Canada balsam.

In Hungary a total of 363 *Mallophaga* species and subspecies have been identified from 186 bird species over approximately 100 years (Csiky, 1904; Pávay and Vajna, 1909; Kotlán, 1910; Pongrácz, 1914; Dudich, 1922; Kotlán, 1923; Balát and Breier, 1955; Balát, 1957; Sasvári and Schöfer, 1963; 1964a; 1964b; 1967; Piotrowski, 1970; Rékási, 1970; Kotlán and Kobulej, 1972; Rékási, 1973, 1978a; 1978b; 1978c; 1979; 1980; 1983; 1984; 1986a; 1986b; 1987;

1990; Rózsa, 1990). In samples obtained during the first half of the century the zoo-origin of host-birds is unclear. In Table 1 the recent samples of zoo-origin are indicated by asterisks. The identifications were performed with the aid of the fauna catalogues and reference books published by Hopkins and Clay (1952; 1953–1955), Emerson (1964a; 1964b), Eichler and Zlotorzycza (1972), Zlotorzycza (1972), McClure and Ratanaworabhan (1973), Zlotorzycza, Eichler and Ludwig (1947), Zlotorzycza and Morzejewska (1988). Taxonomic classification of host animals corresponds to Keve published in 1984. The sphere of the bird species collected during the previous decades was wider due to hunting interests and nature conservancy restrictions prevailing nowadays. I could have studied only a part of the Hungarian bird preparatums of public collections. Additional evaluation of museum material will be performed in the future.

I want to thank the contributors for the collection of *Mallophaga* sp. dead or ringed birds.

Results and Conclusions

The *Mallophaga* fauna occurring in Hungary and their hosts are detailed in Table 1. It is clear from the data that all the birds may become hosts. In the majority of the birds infested representatives of sub-orders *Ablycera* and *Ischnocera* occur simultaneously. Generally, birds living scattered in small areas are infested to a less extent, compared to the more varied parasite fauna of the large-sized birds nesting in colonies and to the wide-spread species. Propagation of bird lice is graded by intensity whilst, incidence of infestation of birds is characterized by extensity. A high intensity is not necessarily accompanied by a high extensity since species and specimens are varying in number according to several factors e. g., ambient temperature, relative humidity, general health of the host bird, interspecific competition of *Mallophaga* sp., etc. Bird lice live under relatively constant ecological conditions on the body of the host. Infestation of domestic or zoo-birds is affected by husbandry conditions, too.

Rékási and Kiss (1977) have found a correlation between the moult of birds and the presence of bird lice, as well as between the colour of the *Mallophaga* sp. and that of the host. Namely, shading of the plumage colour is also accompanied by the change of the colour in certain *Mallophaga* sp. During moult the *Mallophaga* specimens usually escape from the body regions just under change of colour. In Black-headed Gull (*Larus ridibundus*) and *Gavia* sp. specimens contaminated with oil to 40% no *Mallophaga* have occurred. Bird lice are usually body region specific, often changing their residence sites seasonally.

The most diverse *Mallophaga* sp. communities have been found in the Rook (*Corvus frugilegus*) and the Lapwing (*Vanellus vanellus*). Relatively rich parasite fauna has occurred in the *Anser* sp., some birds of prey (*Falconiformes* sp.) as well as in the Black-headed Gull, the Collared Dove (*Streptopelia decaocto*), the White and Black Stork (*Ciconia ciconia*, *C. nigra*) and in the Crane

(*Grus grus*). The song birds (*Passeriformes*) share in the Hungarian host sample with a relatively low proportion in respect of species and specimens, either. Thus, additional examinations are to be focused on these birds.

Adult and pullus specimens have been compared in respect of infestation on three species: the Rook, the Magpie (*Pica pica*) and the House Sparrow (*Passer domesticus*). Degree of infestation is 5-fold higher in adults than in juveniles. Males have also been infested to a considerably higher degree than females. Infestations of a European Coot (*Fulica atra*) with broken leg has been much severe, compared to the intact specimens, and due to the failure of removing the parasites.

Besides identification, the literary compilation also includes the papers published on the *Mallophaga* problems in respect of reproduction, ecology and hygienics.

In summary, a total of 363 *Mallophaga species* have been identified from 183 bird species of Hungary so far. No *Mallophaga* have been sampled from 170 bird species. With knowledge of zoogeography the number of *Mallophaga species* occurring in Hungary can be put at 800.

Table 1. *Mallophaga* species on birds of Hungary
(*Mallophaga*)

1. táblázat: Magyarországon előforduló madarokról gyűjtött rágótetvek

Serial- No.	Aves	Mallophaga
Sor- szám		
Gaviiformes		
1.	<i>Gavia arctica</i>	<i>Craspedonirmus colymbinus</i> (Denny)
Podicipitiformes		
2.	<i>Podiceps auritus</i>	<i>Pseudomenopon</i> sp.
3.	<i>P. cristatus</i>	<i>Aquanirmus podicipis</i> (Denny) <i>Pseudomenopon dolium</i> (Rudow)
Pelecaniformes		
4.	<i>Phalacrocorax carbo</i>	<i>Pectinopygus gyricornis</i> (Denny)
Ciconiiformes		
5.	<i>Ardea cinerea</i>	<i>Ardeicola ardeae</i> (L.) <i>Ciconiphilus decimfasciatus</i> (Boisd.-Lac.) <i>Trinoton querquedulae</i> (L.)

Serial- No. Sor- szám	Aves	Mallophaga
6.	<i>A. purpurea</i>	<i>Anatoecus</i> sp. <i>Ardeicola leucoproctus</i> (Nitzsch) <i>Ardeiphilus trochioxus</i> (Nitzsch) <i>Trinoton querquedulae</i> (L.)
7.	<i>Ardeola ralloides</i>	<i>Colpocephalum decimfasciatus</i> (Boisd.–Lac.) <i>C. vittatus</i> (Rudow)
8.	<i>Nycticorax nycticorax</i>	<i>Ardeicola goisagi</i> (Uchida) <i>Ciconiphilus decimfasciatus</i> (Boisd.–Lac.)
9.	<i>Botaurus stellaris</i>	<i>Ardeicola stellaris</i> (Denny)
10.	<i>Ciconia ciconia</i>	<i>Ardeicola ciconiae</i> (L.) <i>Ciconiphilus quadripustulatus</i> (Burm.) <i>Colpocephalum zebra</i> (Nitzsch) <i>Neophiloaterus incompletus</i> (Denny) <i>N. tricolor</i> (Nitzsch)
11.	<i>C. nigra</i>	<i>Ardeicola maculatus</i> (Nitzsch) <i>Ciconiphilus quadripustulatus</i> (Burm.) <i>Colpocephalum zebra</i> (Nitzsch) <i>Neophiloaterus incompletus</i> (Denny) <i>N. tricolor</i> (Burm.)
12.	<i>Plegadis falcinellus</i>	<i>Ardeicola plataleae</i> (L.) <i>A. raphidius</i> (Nitzsch) <i>Colpocephalum leptopygos</i> (Nitzsch) <i>Ibidoecus bisignatus</i> (Nitzsch) <i>Plegadiphilus plegadis</i> (Dubinin)
13.	<i>Platalea leucorodia</i>	<i>Ardeicola plataleae</i> (L.) <i>Eucolpocephalum femorale</i> (Piaget) <i>Ibidoecus plataleae</i> (Denny)
Anseriformes		
14.	<i>Cygnus cygnus</i>	<i>Menopon brevithoracicum</i> (Piaget)
15.	<i>C. olor</i>	<i>Anaticola anseris</i> (L.) <i>Ornithobius bucephalus</i> (Giebel) <i>O. goniopleurus</i> (Denny)

Serial- No. Sor- szám	Aves	Mallophaga
16.	<i>Anser anser</i>	<i>Anaticola anseris</i> (L.) <i>Anatoecus icterodes adustus</i> (Nitzsch in Giebel) <i>Ornithobius matthewsi</i> (Balát) <i>Trinoton anserinum</i> (J. C. Fabricius)
17.	<i>Anser anser domesticus</i>	<i>Anaticola anseris</i> (L.)
18.	<i>A. albifrons</i>	<i>Anaticola serratus</i> (Nitzsch) <i>Anatoecus brunneiceps brevimaculatus</i> (Giebel) <i>Trinoton anserinum</i> (J. C. Fabricius)
19.	<i>Branta canadensis</i>	<i>Anaticola anseris</i> (L.)
20.	<i>Tadorna tadorna</i>	<i>Anaticola tadornae</i> (Denny)
21.	<i>Cygnopsis cygnoides</i>	<i>Neophilopterus pygastis</i> (Nitzsch)
22.	<i>Anas platyrhynchos</i>	<i>Anaticola crassicornis</i> (Scopoli) <i>Anatoecus dentatus</i> (Scopoli) <i>A. icterodes boschadis</i> (Kéler) <i>Holomenopon transvaalense</i> (Bedford) <i>Holomenopon</i> sp. <i>Trinoton luridum</i> (Burm.) <i>T. querquedulae</i> (L.) <i>Trinoton</i> sp.
23.	<i>A. querquedula</i>	<i>Anaticola sordidus</i> (Giebel) <i>Anaticola</i> sp. <i>Trinoton</i> sp.
24.	<i>A. crecca</i>	<i>Anaticola sordidus</i> (Giebel) <i>Anatoecus dentatus</i> (Scopoli) <i>A. icterodes adustus</i> (Nitzsch) <i>Holomenopon leucoxanthum</i> (Burm.) <i>Koeniginirmus punctatus punctatus</i> (Burm.) <i>Trinoton lituratum</i> (Nitzsch) <i>T. querquedulae</i> (L.) <i>Trinoton</i> sp.
25.	<i>A. acuta</i>	<i>Trinoton luridum</i> (Burm.)
26.	<i>A. strepera</i>	<i>Anaticola depuratus</i> (Nitzsch) <i>Anatoecus</i> sp.

Serial- No. Sor- szám	Aves	Mallophaga
27.	<i>A. clypeata</i>	<i>Anaticola hopkinsi</i> (Eichler) <i>Anatoecus ferrugineus</i> (Giebel) <i>A. icterodes</i> (Nitzsch) <i>Holomenopon setigerum</i> (Blagov.) <i>Trinoton squalidum</i> (Denny)
28.	<i>Aythya ferina</i>	<i>Anaticola crassicornis</i> (Scopoli) <i>Anatoecus icterodes</i> (Nitzsch) <i>Trinoton nyrocae</i> (Eichler)
29.	<i>Aythya nyroca</i>	<i>Anaticola fuligulae</i> (T. Müller) <i>Anaticola</i> sp. <i>Anatoecus dentatus georgescui</i> (Kéler) <i>Anatoecus</i> sp. <i>Holomenopon setigerum</i> (Blagov.) <i>Holomenopon</i> sp. <i>Trinoton squalidum</i> (Denny) <i>Trinoton</i> sp.
30.	<i>Bucephala clangula</i>	<i>Anatoecus icterodes dissensus</i> (Zlot.) <i>Holomenopon leucoxanthum</i> (Burm.) <i>Trinoton querquedulae</i> (L.)
31.	<i>Somateria mollissima</i>	<i>Lunaceps holophaeus</i> (Nitzsch)
32.	<i>Mergus albellus</i>	<i>Anaticola mergiserrati</i> (De Geer) <i>Anatoecus</i> sp.
33.	<i>M. merganser</i>	<i>Anatoecus bipunctatus</i> (Giebel)
Falconiformes		
34.	<i>Pernis apivorus</i>	<i>Colpocephalum apivorus</i> (Tendeiro) <i>Craspedorrhynchus melittoscopus</i> (Nitzsch) <i>C. platystomus</i> (Burm.) <i>Degeeriella phlyctopygus</i> (Nitzsch)
35.	<i>Milvus migrans</i>	<i>Colpocephalum flavescens</i> (Nitzsch) <i>C. tricoloratum</i> (Nitzsch) <i>Craspedorrhynchus pachypus</i> (Giebel) <i>C. spathulatus</i> (Giebel) <i>Degeeriella fusca</i> (Denny) <i>Laemobothrion circi</i> (Geoffroy) <i>L. titan</i> (Piaget)

Serial- No. Sor- szám	Aves	Mallophaga
36.	<i>Accipiter gentilis</i>	<i>Craspedorrhynchus haematopus</i> (Scopoli) <i>Degeeriella fusca</i> (Denny)
37.	<i>A. nisus</i>	<i>Craspedorrhynchus nisi</i> (Denny) <i>Degeeriella nisus</i> (Giebel) <i>Kelerinirmus nisus nisus</i> (Giebel)
38.	<i>Buteo buteo</i>	<i>Colpocephalum buteonis</i> (Eichler) <i>Craspedorrhynchus aquilinus</i> (Denny) <i>C. platystomus</i> (Burm.) <i>Degeeriella fulva</i> (Giebel) <i>D. fusca</i> (Denny) <i>D. giebeli</i> (Hopkins) <i>Laemobothrion maximum</i> (Scopoli)
39.	<i>B. buteo vulpinus</i>	<i>Craspedorrhynchus platystomus</i> (Burm.)
40.	<i>B. lagopus</i>	<i>Colpocephalum flavescens</i> (Haan) <i>Craspedorrhynchus dilatatus</i> (Rudow) <i>Degeeriella angusta</i> (Giebel) <i>D. rufa</i> (Nitzsch)
41.	<i>Aquila chrysaetos</i>	<i>Craspedorrhynchus aquilinus</i> (Denny) <i>C. chrysophthalmi</i> (Denny)
42.	<i>Aquila heliaca</i>	<i>Craspedorrhynchus aquilinus</i> (Denny) <i>C. platystomus</i> (Burm.)
43.	<i>A. nipalensis</i>	<i>Colpocephalum flavescens</i> (Nitzsch)
44.	<i>A. clanga</i>	<i>Craspedorrhynchus naevius</i> (Giebel)
45.	<i>A. pomarina</i>	<i>Craspedorrhynchus naevius</i> (Giebel) <i>Degeeriella fusca</i> (Denny) <i>Falcolipeurus quadripustulatus</i> (Burm.) <i>F. secretarius</i> (Giebel)
46.	<i>Haliaeetus albicilla</i>	<i>Aquiligogus</i> / <i>Colpocephalum</i> / <i>flavescens</i> (Haan) <i>Colpocephalum flavescens</i> (Nitzsch) <i>Craspedorrhynchus aquilinus</i> (Denny) <i>C. macrocephalus</i> (Nitzsch in Giebel)
47.	<i>Aegyptius monachus</i>	<i>Aegypoeus brevicollis</i> (Burm.) <i>Laemobothrion validum</i> (Giebel)

Serial- No. Sor- szám	Aves	Mallophaga
48.	<i>Circus cyaneus</i>	<i>Degeeriella fusca</i> (Denny) <i>Laemobothrion circi</i> (Fourcroy)
49.	<i>C. macrourus</i>	<i>Degeeriella phlyctopygus</i> (Nitzsch)
50.	<i>C. pygargus</i>	<i>Colpocephalum turbinatum</i> (Denny) <i>Craspedorrhynchus rotundatus</i> (Piaget)
51.	<i>C. aeruginosus</i>	<i>Colpocephalum bicinctum</i> (Nitzsch) <i>Craspedorrhynchus aquilinus</i> (Denny) <i>C. rotundatus</i> (Piaget) <i>Degeeriella fusca</i> (Denny) <i>Laemobothrion maximum circi</i> (Fourcroy)
52.	<i>Circaëtus gallicus</i>	<i>Laemobothrion</i> sp.
53.	<i>Pandion haliaëtus</i>	<i>Kurodaia haliaeti</i> (Denny)
54.	<i>Falco peregrinus</i>	<i>Colpocephalum flavescens</i> (Haan) <i>Degeeriella rufa</i> (Burm.)
55.	<i>F. subbuteo</i>	<i>Colpocephalum flavescens</i> (Haan) <i>Degeeriella nitzschi</i> (Giebel) <i>Laemobothrion</i> sp.
56.	<i>F. vespertinus</i>	<i>Colpocephalum zerafae</i> (Ansari) <i>Degeeriella rufa</i> (Burm.) <i>Laemobothrion</i> sp. <i>Nosopon lucidum</i> (Rudow)
57.	<i>F. tinnunculus</i>	<i>Degeeriella fusca</i> (Nitzsch) <i>D. rufa rufa</i> (Burm.) <i>Laemobothrion tinnunculi</i> (L.) <i>Lipeurus caponis</i> L. <i>Menacanthus</i> sp.
Galliformes		
58.	<i>Tetrao urogallus</i>	<i>Goniodes bituberculatus</i> (Rudow) <i>Oxylipeurus tetraonis</i> (Grube)
59.	<i>Tetrastes bonasia</i>	<i>Trinoton querquedulae</i> (L.)

Serial- No. Sor- szám	Aves	Mallophaga
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| 60. | <i>Perdix perdix</i> | <i>Cuclotogaster heterogrammicus</i> (Nitzsch)
<i>Goniocotes microthorax</i> (Stephens)
<i>Goniodes dispar</i> (Burm.)
<i>Menacanthus abdominalis</i> (Piaget)
<i>Menopon pallens</i> (Clay) |
| 61. | <i>Coturnix coturnix</i> | <i>Amyrsidea fulvomaculata</i> (Denny)
<i>Cuclotogaster cinereus</i> (Nitzsch) |
| 62. | <i>Phasianus colchicus</i> | <i>Amyrsidea megalosoma</i> (Overgaard)
<i>Goniocotes chrysocephalus</i> (Giebel)
<i>Lipeurus maculosus maculosus</i> (Clay)
<i>Menacanthus</i> sp.
<i>Oxilipeurus mesopelios colchicus</i> (Clay) |
| 63. | <i>Pavo cristatus</i> | <i>Amyrsidea phaeostoma</i> (Nitzsch)
<i>Goniocotes rectangulatus</i> (Nitzsch)
<i>Goniodes pavonis</i> (L.)
<i>Menopon gallinae</i> (L.) |
| 64. | <i>Meleagris gallopavo</i> | <i>Chelopistes meleagridis</i> (L.) |
| 65. | <i>Gallus domesticus</i> | <i>Cuclotogaster heterographus</i> (Nitzsch)
<i>Goniocotes gallinae</i> (De Geer)
<i>Goniodes gigas</i> (Taschenberg)
<i>Menopon gallinae</i> (L.)
<i>Oulocrepis /Goniodes/ dissimilis</i> (Denny)
<i>Uchida pallidulus</i> (Neum.) |

Gruiformes

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| 66. | <i>Grus grus</i> | <i>Esthiopterum gruis</i> (L.)
<i>Gruimenopon longum</i> (Giebel)
<i>Heleonimus macilentus</i> (Nitzsch)
<i>Saemundssonina integer</i> (Nitzsch) |
| 67. | <i>Rallus aquaticus</i> | <i>Incidifrons ralli</i> (Scopoli)
<i>Pseudomenopon scopulacorne</i> (Denny)
<i>Rallicola cuspidatus</i> (Scopoli) |

Serial- No. Sor- szám	Aves	Mallophaga
68.	<i>Gallinula chloropus</i>	<i>Cummingsiella ambigua</i> (Burm.)
69.	<i>Fulica atra</i>	<i>Fulicoffula lurida</i> (Nitzsch) <i>Incidifrons fulicae</i> (L.) <i>Laemobothrion atrum</i> (Nitzsch) <i>Pseudomenopon pilosum</i> (Scopoli) <i>Rallicola fulicae</i> (Denny)
70.	<i>Otis tarda</i>	<i>Otidoecus turmalis</i> (Denny)
Charadriiformes		
71.	<i>Vanellus vanellus</i>	<i>Actornithophilus gracilis</i> (Piaget) <i>A. ochraceus</i> (Nitzsch) <i>A. svoboda</i> (Balát) <i>Austromenopon lutescens</i> (Burm.) <i>Luniceps bicolor</i> (Piaget) <i>Quadriceps cingulata</i> (Nitzsch) <i>Q. furvus</i> (Burm.) <i>Q. junceus</i> (Scopoli) <i>Saemundssonina temporalis</i> (Giebel)
72.	<i>Pluvialis squatarola</i>	<i>Actornithophilus flavipes</i> (Giebel) <i>Austromenopon squatarolae</i> (Timmermann) <i>Quadriceps charadrii hospes</i> (Nitzsch) <i>Saemundssonina naumanni</i> (Giebel)
73.	<i>P. apricarius</i>	<i>Actornithophilus ochraceus</i> (Nitzsch) <i>Quadriceps charadrii charadrii</i> (L.)
74.	<i>Charadrius hiaticula</i>	<i>Saemundssonina platygaster</i> (Denny)
75.	<i>C. dubius</i>	<i>Quadriceps bicuspis</i> (Nitzsch)
76.	<i>C. alexandrinus</i>	<i>Actornithophilus ochraceus</i> (Nitzsch) <i>Quadriceps retractus</i> (Zlot.) <i>Saemundssonina platygaster</i> (Denny)
77.	<i>Numenius arquata</i>	<i>Austromenopon crocatum</i> (Nitzsch) <i>Cummingsiella ovalis</i> (Scopoli) <i>Luniceps holophaeus</i> (Nitzsch) <i>L. numenii</i> (Denny) <i>Saemundssonina humeralis</i> (Denny) <i>S. maior</i> (Waterston) <i>S. scolopacis-phaeopodis</i> (Schränk) <i>S. scolopacis-phaeopodis humeralis</i> (Denny)

Serial- No. Sor- szám	Aves	Mallophaga
78.	<i>Limosa limosa</i>	<i>Saemundssonina limosae</i> (Denny)
79.	<i>Tringa erythropus</i>	<i>Actornithophilus affinis</i> (Nitzsch) <i>Quadriceps furvus</i> (Burm.)
80.	<i>T. totanus</i>	<i>Actornithophilus totani</i> (Schrank) <i>Austromenopon lutescens</i> (Burm.) <i>Luniceps holophaeus</i> (Nitzsch) <i>Quadriceps conformis</i> (Blagov.)
81.	<i>T. nebularia</i>	<i>Actornithophilus affinis</i> (Nitzsch) <i>Quadriceps similis</i> (Giebel) <i>Saemundssonina cordiceps</i> (Giebel)
82.	<i>T. ochropus</i>	<i>Quadriceps ochropi</i> (Denny)
83.	<i>T. glareola</i>	<i>Actornithophilus affinis</i> (Nitzsch) <i>Austromenopon</i> sp. <i>Quadriceps obscurus</i> (Burm.)
84.	<i>T. hypoleuca</i>	<i>Austromenopon nigropleurum</i> (Denny) <i>Quadriceps ravus subfuscus</i> (Blagov.)
85.	<i>Gallinago gallinago</i>	<i>Austromenopon durisetosum</i> (Blagov.) <i>Cummingsiella ambigua</i> (Burm.) <i>Quadriceps scolopacis</i> (Denny) <i>Rhynonirmus scolopacis</i> (Denny) <i>Saemundssonina maior</i> (Waterston)
86.	<i>Scolopax rusticola</i>	<i>Austromenopon icterum</i> (Burm.) <i>Cummingsiella aurea</i> (Hopkins) <i>C. brelihi</i> (Timmermann) <i>Rhynonirmus helvolus</i> (Burm.) <i>Scolopiceps aureus</i> (Hopkins)
87.	<i>Lymnocyptes minimus</i>	<i>Actornithophilus multisetosus</i> (Blagov.)
88.	<i>Calidris minuta</i>	<i>Carduiceps zonarius</i> (Nitzsch) <i>Saemundssonina platygaster</i> (Denny)
89.	<i>C. alpina</i>	<i>Austromenopon alpinum</i> (Timmermann) <i>Carduiceps meinertzhageni</i> (Timmermann) <i>C. zonarius</i> (Nitzsch) <i>Luniceps actophilus</i> (Kellogg–Chapman) <i>Saemundssonina platygaster</i> (Denny)

Serial- No. Sor- szám	Aves	Mallophaga
90.	<i>C. ferruginea</i>	<i>Carduiceps</i> sp. <i>Luniceps</i> sp.
91.	<i>Philomachus pugnax</i>	<i>Actornithophilus pustulosus</i> (Piaget) <i>Austromenopon lutescens</i> (Burm.) <i>Carduiceps scalaris</i> (Piaget) <i>Luniceps holophaeus</i> (Burm.)
92.	<i>Himantopus himantopus</i>	<i>Proneptis semifissa semifissa</i> (Nitzsch)
93.	<i>Recurvirostra avosetta</i>	<i>Austromenopon micrandum</i> (Nitzsch) <i>Cirrophthirius recurvirostrae</i> (L.) <i>Quadriceps decipiens</i> (Denny) <i>Q. recurvirostrae</i> (L.) <i>Q. signatus</i> (Piaget) <i>Q. testudinaria</i> (Children)
94.	<i>Burhinus oedicephalus</i>	<i>Oedicnemiceps annulatus</i> (Denny)
95.	<i>Stercorarius pomarinus</i>	<i>Saemundssonina cephalus</i> (Nitzsch)
96.	<i>S. parasiticus</i>	<i>Austromenopon circinatum</i> (Piaget) <i>Quadriceps normifer</i> (Grube)
97.	<i>Larus argentatus</i>	<i>Quadriceps punctatus punctatus</i> (Burm.) <i>Saemundssonina lari</i> (O. Fabricius)
98.	<i>L. ridibundus</i>	<i>Austromenopon ridibundus</i> (Denny) <i>Koeniginirmus eugrammicus</i> <i>eugrammicus</i> (Burm.) <i>Laemobothrion atrum</i> (Nitzsch) <i>Quadriceps /Koeniginirmus/ punctatus</i> (Burm.) <i>Saemundssonina gonothorax</i> (Giebel) <i>S. lari</i> (O. Fabricius) <i>S. mülleri</i> (Eichler)
99.	<i>Chlidonias leucoptera</i>	<i>Austromenopon</i> sp. <i>Quadriceps /Koeniginirmus/ pagasti</i> (Eichler) <i>Saemundssonina lobaticeps</i> (Giebel)
100.	<i>Ch. niger</i>	<i>Koeniginirmus nychthemerus phaeonotus</i> (Nitzsch) <i>Quadriceps /Koeniginirmus/ phaeonotus</i> (Nitzsch) <i>Saemundssonina lobaticeps</i> (Giebel)

Serial- No. Sor- szám	Aves	Mallophaga
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101. *Sterna hirundo* *Austromenopon pachypus* (Piaget)
Quadriceps/Koeniginirmus/ sellatus (Burm.)
Saemundssonina sterna (L.)

Columbiformes

102. *Columba oenas* *Campanulotes bidentatus drosti* (Eichler)
Columbicola columbae filiformis (Olfers)
103. *Columba palumbus* *Campanulotes bidentatus bidentatus* (Scopoli)
Coloceras damicorne (Nitzsch)
Columbicola columbae claviformis (Denny)
104. *Columba livia domestica* *Bonomiella columbae* (Emerson)
Campanulotes bidentatus compar (Nitzsch)
Colpocephalum turbinatum (Denny)
Columbicola columbae columbae (L.)
Hohorstiella lata (Piaget)
105. *Streptopelia turtur* *Coloceras piageti* (Johnston–Harrison)
Columbicola baculus baculus (Giebel)
C. columbae bacillus (Giebel)
Hohorstiella sp.
106. *S. decaocto* *Brueelia* sp.
Coloceras softoticus (Eichler)
Columbicola baculus confissimus (Eichler)
C. columbae bacillus (Giebel)
Goniodes dispar (Nitzsch)
Lipeurus maculosus maculosus (Clay)
Lipeurus sp.

Cuculiformes

107. *Cuculus canorus* *Cuculicola latirostris* (Burm.)
Cuculiphilus fasciatus (Scopoli)
Cuculoecus latifrons (Denny)

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Strigiformes

108. *Tyto alba* *Tytoniella /Strigiphilus/ rostrata (Burm.)*
109. *Bubo bubo* *Kurodaia /Conciella/ longipes (Giebel)*
Strigiphilus goniodicerus (Eichler)
110. *Athene noctua* *Strigiphilus ceblebrachys (Denny)*
S. cursitans (Nitzsch)
111. *Strix aluco* *Kurodaia subpachygaster (Piaget)*
Strigiphilus cursor (Burm.)
S. laticephalus (Uchida)
112. *S. uralensis* *Kurodaia cryptostigmatia (Nitzsch)*
113. *Asio otus* *Brueelia angulata (Piaget)*
Menacanthus longipes (Giebel)
Strigiphilus asionis (Eichler)
S. barbatus (Osborn)
S. cursor (Burm.)
114. *A. flammeus* *Strigiphilus cursor (Burm.)*

Caprimulgiformes

115. *Caprimulgus europaeus* *Muldicola hypoleucos (Denny)*

Apodiformes

116. *Apus apus* *Dennyus hirundinis (L.)*
Eureum cimicoides Burm.

Coraciiformes

117. *Alcedo atthis* *Alcedoffula alcedinis (Denny)*
118. *Merops apiaster* *Brueelia apiastri (Denny)*
Meromenopon meropis (Clay-Meinertzhagen)
Meropoecus meropis (Denny)
119. *Coracias garrulus* *Capraiella subcuspidata (Burm.)*
Meromenopon incisum (Giebel)
120. *Upupa epops* *Menacanthus fertilis (Nitzsch)*
Upupicola upupae (Schrank)

Serial- No. Sor- szám	Aves	Mallophaga
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Piciformes

- | | | |
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| 121. | <i>Jynx torquilla</i> | <i>Penenirmus serrilimbus</i> (Burm.) |
| 122. | <i>Picus viridis</i> | <i>Degeeriella candida</i> (Nitzsch)
<i>Menacanthus pici</i> (Denny)
<i>Penenirmus pici</i> (J. C. Fabricius)
<i>Picicola candidus</i> (Nitzsch) |
| 123. | <i>P. canus</i> | <i>Penenirmus pici</i> (J. C. Fabricius)
<i>Picicola candidus</i> (Nitzsch) |
| 124. | <i>Dryocopus martius</i> | <i>Picusphilus</i> / <i>Colpocephalum</i> /
<i>inaequalis</i> (Burm.) |
| 125. | <i>Dendrocopos maior</i> | <i>Brueelia straminea</i> (Denny)
<i>Menacanthus dryobates</i> (Eichler)
<i>Penenirmus auritus</i> (Scopoli) |
| 126. | <i>D. syriacus</i> | <i>Menacanthus</i> sp.
<i>Penenirmus auritus</i> (Scopoli)
<i>P. peusi</i> (Eichler) |
| 127. | <i>D. medius</i> | <i>Brueelia superciliosa</i> (Nitzsch) |
| 128. | <i>D. leucotos</i> | <i>Penenirmus auritus</i> (Scopoli) |
| 129. | <i>D. minor</i> | <i>Brueelia superciliosa</i> (Nitzsch)
<i>Penenirmus auritus</i> (Scopoli) |

Passeriformes

- | | | |
|------|--------------------------|---|
| 130. | <i>Galerida cristata</i> | <i>Docophorulus</i> / <i>Philopterus</i> /
<i>alexanderkoenigi</i> (Eichler)
<i>Menacanthus alaudae</i> (Schrank) |
| 131. | <i>Lullula arborea</i> | <i>Docophorulus arboreus</i> (Fedorenko) |
| 132. | <i>Alauda arvensis</i> | <i>Menacanthus alaudae</i> (Schrank) |
| 133. | <i>Hirundo rustica</i> | <i>Machaerilaemus malleus</i> (Burm.)
<i>Myrsidea rustica</i> (Giebel) |
| 134. | <i>Delichon urbica</i> | <i>Brueelia gracilis gracilis</i> (Burm.)
<i>Myrsidea</i> sp.
<i>Philopterus excisus</i> (Nitzsch) |

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Aves

Mallophaga

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| 135. | <i>Oriolus oriolus</i> | <i>Brueelia munda</i> (Nitzsch)
<i>Docophorulus / Philopterus / ornatus</i> (Nitzsch)
<i>Ricinus dolichocephalus</i> (Scopoli) |
| 136. | <i>Corvus corax</i> | <i>Brueelia argula</i> (Burm.)
<i>Menacanthus gonophaeus</i> (Burm.)
<i>Myrsidea anaspila</i> (Nitzsch)
<i>M. cornicis</i> (De Geer)
<i>Philopterus corvi</i> (L.) |
| 137. | <i>C. cornix</i> | <i>Brueelia uncinosa</i> (Burm.)
<i>Colpocephalum subaequale</i> (Burm.)
<i>Menacanthus cornicis</i> (Blagov.)
<i>Myrsidea cornicis</i> (De Geer)
<i>Philopterus ocellatus</i> (Scopoli) |
| 138. | <i>C. c. sardonius</i> | <i>Menacanthus</i> sp.
<i>Philopterus ocellatus</i> (Scopoli) |
| 139. | <i>C. frugilegus</i> | <i>Brueelia varia</i> (Burm.)
<i>B. tasniamae</i> (Ansari)
<i>Colpocephalum subaequale</i> (Burm.)
<i>Menacanthus laticeps</i> (Blagov.)
<i>Myrsidea cornicis</i> (De Geer)
<i>M. inaequalis</i> (Piaget)
<i>M. isostoma</i> (Nitzsch)
<i>Lipeurus maculosus maculosus</i> (Clay)
<i>Philopterus atratus</i> (Nitzsch)
<i>P. ocellatus</i> (Scopoli) |
| 140. | <i>Corvus monedula</i> | <i>Brueelia varia</i> (Burm.)
<i>Myrsidea anathorax</i> (Nitzsch)
<i>Phylopterus guttatus</i> (Denny)
<i>P. ocellatus</i> (Scopoli) |
| 141. | <i>Pica pica</i> | <i>Brueelia biocellata</i> (Piaget)
<i>Myrsidea picae</i> (L.)
<i>Philopterus picae</i> (Denny) |
| 142. | <i>Nucifraga caryocatactes</i> | <i>Brueelia olivacea</i> (Burm.)
<i>Philopterus crassipes</i> (Burm.) |
| 143. | <i>Garrulus glandarius</i> | <i>Brueelia glandarii</i> (Denny)
<i>Myrsidea indivisa</i> (Nitzsch)
<i>Philopterus garruli</i> (Boisd. – Lac.) |

Serial- No. Sor- szám	Aves	Mallophaga
144.	<i>Parus maior</i>	<i>Menacanthus sinuatus</i> (Burm.) <i>Philopterus pallescens</i> (Denny)
145.	<i>P. caeruleus</i>	<i>Brueelia breieri</i> (Balát) <i>Myrsidea inaequalis</i> (Piaget)
146.	<i>P. palustris</i>	<i>Menacanthus sinuatus</i> (Burm.)
147.	<i>Aegithalos caudatus</i>	<i>Penenirmus pari</i> (Denny)
148.	<i>Panurus biarmicus</i>	<i>Brueelia</i> sp. <i>Penenirmus</i> sp. <i>Philopterus</i> sp.
149.	<i>Sitta europaea</i>	<i>Brueelia breieri</i> (Balát) <i>Philopterus subflavescens</i> (Geoffroy) <i>Philopterus</i> sp.
150.	<i>Troglodytes troglodytes</i>	<i>Menacanthus tenuiformes</i> (Blagov.) <i>Penenirmus albiventris</i> (Scopoli)
151.	<i>Turdus viscivorus</i>	<i>Brueelia viscivori</i> (Denny) <i>Docophorulus vernus</i> (Zlot.) <i>Myrsidea thoracica</i> (Giebel) <i>Philopterus</i> sp.
152.	<i>T. pilaris</i>	<i>Brueelia intermedia</i> (Nitzsch) <i>B. marginata</i> (Burm.) <i>Docophorulus bischoffi</i> (Eichler) <i>Menacanthus</i> sp.
153.	<i>T. philomelos</i>	<i>Brueelia iliacy</i> (Denny) <i>Brueelia</i> / <i>Allobrueelia</i> / sp. <i>Docophorulus turdi</i> (Denny) <i>Philopterus</i> sp.
154.	<i>T. torquatus</i>	<i>Brueelia intermedia</i> (Nitzsch) <i>Docophorulus</i> sp.
155.	<i>T. merula</i>	<i>Brueelia amsel</i> (Eichler) <i>B. marginata</i> (Burm.) <i>B. merulensis</i> (Denny) <i>Docophorulus</i> / <i>Philopterus</i> / <i>merulae</i> (Denny) <i>Menacanthus</i> sp. <i>Ricinus elongatus</i> (Olfers) <i>R. elongatus ernstlangi</i> (Eichler)

Serial- No. Sor- szám	Aves	Mallophaga
156.	<i>Luscinia megarhynchos</i>	<i>Brueelia lais</i> (Giebel)
157.	<i>Erithacus rubecula</i>	<i>Philopterus</i> sp.
158.	<i>Sylvia borin</i>	<i>Menacanthus vistulanus vistulanus</i> (Eichl-Zlot.)
159.	<i>S. communis</i>	<i>Menacanthus</i> sp.
160.	<i>Phylloscopus trochilus</i>	<i>Brueelia</i> sp.
161.	<i>P. collybita</i>	<i>Pleuronirmus rarus</i> (Zlotorzyczna)
162.	<i>Regulus regulus</i>	<i>Docophorulus /Philopterus/ reguli</i> (Denny)
163.	<i>Muscicapa striata</i>	<i>Docophorulus capillatus desertus</i> (Zlot.) <i>Philopterus</i> sp.
164.	<i>Ficedula hypoleuca</i>	<i>Docophorulus capillatus capillatus</i> (Zlot.)
165.	<i>Anthus pratensis</i>	<i>Brueelia corydalla</i> (Timmermann)
166.	<i>Motacilla alba</i>	<i>Brueelia</i> sp. <i>Docophorulus /Philopterus/ passerinus</i> (Denny) <i>Sturnidoecus aeneas</i> (Piaget)
167.	<i>Bombycilla garullus</i>	<i>Brueelia brachythorax</i> (Giebel) <i>Ricinus bombycillae</i> (Denny) <i>R. elongatus</i> (Olfers)
168.	<i>Lanius excubitor</i>	<i>Brueelia imponderabilica</i> (Eichler) <i>Docophorulus coarctatus fuscicollis</i> (Burm.) <i>Menacanthus camelinus</i> (Nitzsch) <i>Philopterus fuscicollis</i> (Burm.)
169.	<i>Lanius minor</i>	<i>Docophorulus coarctatus fuscicollis</i> (Burm.) <i>Menacanthus camelinus</i> (Nitzsch) <i>Philopterus</i> sp.
170.	<i>L. collurio</i>	<i>Brueelia cruciata</i> (Burm.) <i>Docophorulus /Philopterus/ coarctatus c.</i> (Scopoli) <i>Philopterus lanii</i> (Fabricius) <i>P. subflavescens</i> (Geoffroy)

Serial- No. Sor- szám	Aves	Mallophaga
171.	<i>Sturnus vulgaris</i>	<i>Brueelia nebulosa</i> (Burm.) <i>Goniodes dispar</i> (Burm.) <i>Menacanthus spinosum</i> (Piaget) <i>M. mutabilis</i> (Blagov.) <i>M. spiniferus</i> (Piaget) <i>Myrsidea cucullaris</i> (Nitzsch) <i>Sturnidoecus sturni</i> (Schrank)
172.	<i>Pastor roseus</i>	<i>Sturnidoecus pastoris</i> (Denny)
173.	<i>Passer domesticus</i>	<i>Brueelia cyclothorax</i> (Burm.) <i>Brueelia</i> sp. <i>Docophorulus /Philopterus/ fringillae</i> f. (Scopoli) <i>Myrsidea quadrifasciata</i> (Piaget) <i>Philopterus subflavescens</i> (Geoffroy) <i>Sturnidoecus ruficeps</i> (Nitzsch)
174.	<i>P. montanus</i>	<i>Brueelia cyclothorax</i> (Burm.) <i>B. ruficeps</i> (Nitzsch) <i>Docophorulus /Philopterus/ fringillae montani</i> (Zl.) <i>Philopterus</i> sp. <i>Ricinus</i> sp. <i>Sturnidoecus ruficeps</i> (Nitzsch)
175.	<i>Coccothraustes coccothraustes</i>	<i>Brueelia junco</i> (Giebel)
176.	<i>Carduelis chloris</i>	<i>Brueelia breieri</i> (Balát) <i>Philopterus citrinellae citrinellae</i> (Schrank)
177.	<i>C. cannabina</i>	<i>Brueelia densilimba</i> (Nitzsch) <i>Meacanthus cannabinae</i> (Fedor.-Belskaya) <i>Philopterus subflavescens</i> (Geoffroy)
178.	<i>Pyrrhula pyrrhula</i>	<i>Brueelia pyrrhularum</i> (Eichler) <i>Brueelia</i> sp. <i>Docophorulus pyrrhulae</i> (Schrank) <i>Philopterus citrinellae</i> (Schrank) <i>P. subflavescens</i> (Geoffroy)
179.	<i>Fringilla coelebs</i>	<i>Philopterus subflavescens</i> (Geoffroy) <i>Philopterus</i> sp. <i>Ricinus fringillae</i> (De Geer) <i>R. irascens</i> (Burm.)

Serial- No. Sor- szám	Aves	Mallophaga
180.	<i>F. montifringilla</i>	<i>Brueelia cyclothorax</i> (Burm.) <i>B. delicata</i> (Nitzsch) <i>Philoaterus</i> sp.
181.	<i>Emberiza citrinella</i>	<i>Brueelia delicata</i> (Nitzsch) <i>Docophorulus/Philoaterus/ citrinellae</i> (Schrank) <i>Ricinus fringillae</i> (De Geer)
182.	<i>E. calandra</i>	<i>Docophorulus/Philoaterus/ cumulatus</i> (Zlot.) <i>Philoaterus citrinellae citrinellae</i> (Schrank)
183.	<i>E. schoeniclus</i>	<i>Brueelia blagovescenskij</i> (Balát) <i>Docophorulus residuus</i> (Zlotorzycza)

References – Irodalom

- Balát, F.–Breuer, Gy. (1955) Beiträge zur Ektoparasitenfauna der Vögel in der Umgebung von Szentgál. – Acta Vet. Acad. Scient. Hung., V. Fasc. 1: 29–38.
- Balát, F. (1957) Beiträge zur Mallophaga-Fauna der westlichen Teile Ungarns (Transdanubien) I. – Acta Vet., Budapest, VII, Fasc. 4: 445–458.
- Brelj, S.–Tovornik, D. (1964) Prispevek k poznavaju tekutov (Mallophaga) Jugoslavije IV. – Bioloski Vestnik, 12: 121–127.
- Csiki, E. (1904) A tetvek – Rovartani Lapok, XI: 176–184.
- Dudich, E. (1922) Felhívás a tolltetvek gyűjtésére. – A Természet, XVII–XVIII.: 113.
- Dudich, E. (1924) Mallophaga, in Éhik, Gy.–Dudich, E.: A magyarországi emlősök és azok külső rovarélszöködőinek határozó táblái. – Budapest, 5–74.
- Dudich, E. (1928) Szőr- és tolltetvek (Mallophaga), in Csiki, E. (Brehm). Az állatok világa 15., Ízeltlábúak I., – Budapest, 216–222.
- Egri, B. (1990) Szőrtetvesség magyarországi előfordulása csikóállományban és gyógykezelésekor szerzett tapasztalatok. – Parasit, hung. 23: 109–113.
- Eichler, W. (1963) Mallophaga: in Bronns, H. G.: Klassen und Ordnungen des Tierreichs. 5 Bd.: Arthropoda, III. abt., Insecta, 7 Phthiraptera, – Leipzig, 290. p.
- Eichler, W.–Zlotorzycza, J. (1972) Mallophagenarten der mitteleuropäischen Haustierarten. – Angew. Parasitol., Jena, 13: 91–99.
- Emerson, K. C. (1964 a) Checklist of the Mallophaga of North America (north of Mexico). Part I., Subordo Ischnocera. – Dugway (Utah)-USA, 194 p.
- Emerson, K. C. 1964 b) Checklist of the Mallophaga of North America (north of Mexico). Part II., Suborder Amblycera, – Dugway (Utah)-USA, 104 p.
- Farkas, H. (1969) Rágótetvek, in Móczár, L.: Állathatározó I–II., – Budapest, Tankönyvkiadó, 724–761

- Hopkins, G. H. E.–Clay, T. (1952) A check list of the genera et species of *Mallophaga*. – London, 362 p.
- Hopkins, G. H. E.–Clay, T. (1953) Additions and corrections to the Check List of *Mallophaga*. – Ann. Mag. Nat. Hist., London, Ser. 12, 6: 434–448.
- Hopkins, G. H. E.–Clay, T. (1955) Additions and corrections to the Check List of *Mallophaga*. – II. Ann. Mag. Nat. Hist., London, Ser. 12, 8: 177–190.
- Keve, A. (1973) Systematische Studien über die Corviden IV., *Corvus cornix L.*, – Vertebr. hung. 13: 105–162.
- Keve, A. (1984) Magyarország madarainak névjegyzéke. – Budapest, Akadémiai Kiadó, 100 p.
- Kohaut, R. (1918) Subordo Aptera (*Mallophaga*) in Fauna Regni Hungariae, – Budapest 65–68.
- Kopek, I. (1928) Beiträge zur kenntnis der Mallophagen der Haus- und Wildtiere. – Budapest, Auszug aus der inauguraldissertation, 1–8.
- Kotlán, S. (1910) A Tyúktetű. – Zoológiai Lapok, II., (Avicultura), 117.
- Kotlán, S. (1923) Über die Blutaufnahme als Nahrung bei den Mallophagen. – Zoolog. Anzeiger Bd. LVI, Nr. 9=10: 231–233.
- Kotlán, S. (1939) Adatok a hazai fácánok élősködő-faunájának ismeretéhez. – Aquila, 42–45: 650–657.
- Kotlán, S.–Kobulej, T. (1972) Parazitológia, – Budapest, Mezőgazdasági Kiadó, 503 pp.
- McClure, H. E.–Ratanaworabhan, N. (1973): Some ectoparasites of the birds of Asia. – Bangkok, 219 p.
- Niethammer, G. (1937) Handbuch der Deutschen Vogelkunde. – Leipzig, I. 477. p.
- Pávay–Vajna, F. (1909) *Motacilla alba* tolltetvei. – Aquila, 16: 288–289.
- Piotrowski, F. (1970) Lice (*Phthiraptera* of Mammals in Hungary). – Parasit. hung., 3: 97–118.
- Pongrácz, S. (1914) Magyarország Neuropteroidái. – Rovartani Lapok, XXI: 109–122.
- Rékási, J. (1970) Adatok a vadon élő madarak *Mallophaga* fertőzöttségéről. – Parasit. hung., 3: 207–212.
- Rékási, J. (1973 a) Hamster (*Cricetus cricetus*) destroyer of the Young of Tree Sparrows. – Aquila, 76–77. 197.
- Rékási, J. (1973 b) Magyarországi madarak tolltetvei (*Mallophaga*) I. – Parasit. hung., 6, 215–238.
- Rékási, J.–Kiss, J. B. (1977) Beiträge zur Kenntnis der Federlinge (*Mallophaga*) der Vögel Nord-Dobrudscha (Rumänien). – Parasit. hung. 10: 97–116.
- Rékási, J. (1978 a) Mallophagen-Befall der auf dem See Kelemenszék des Nationalparks Kiskunság beringten Vögel. – Aquila, 84: 89–90.
- Rékási, J. (1978 b): Die Federling-Sammlung des Ungarischen Naturwissenschaftlichen Museums I. – Parasit. hung., 11: 107–112.
- Rékási, J. (1978 c): A Pusztaszeri Rezervátumban gyűjtött vadmadarak tolltetveiről (*Mallophaga*). – Parasit. hung. 11: 149–151.
- Rékási, J. (1979): Die Federling-Sammlung des Ungarischen Naturwissenschaftlichen Museums II. – Parasit. hung., 12: 93–98.
- Rékási, J. (1980): A madarak tolltetveiről. – Madártani Tájékoztató, április–június, 26–29.
- Rékási, J. (1983) A gyöngyösi Mátra Múzeum *Mallophaga* gyűjteményének alapvetése. – Fol. Hist.-nat. Mus. Mtr., 8: 93–95.

- Rékási, J. (1984): Mátra Múzeum Mallophaga gyűjteménye I. – Fol. Hist.-nat. Mus. Matr. 9: 23–47.
- Rékási, J. (1986 a): Mallophaga from ringed and dead Birds Collected in the Kiskunság National Park, in: Mahunka, S.: The Fauna of the Kiskunság National Park, – Budapest, Akadémiai Kiadó, 103–106 p.
- Rékási, J. (1986 b): Magyarországi madarak tolltetvei (*Mallophaga*) II. – Parasit. hung., 19: 119–126.
- Rékási, J. (1987): Adatok a kerecsensólyom (*Falco cherrug*) és a daru (*Grus grus*) tolltetű (*Mallophaga*) fertőzöttségéhez. – Aquila, 93–94: 309–310.
- Rékási, J. (1990): The Lice Fauna of the Bátorliget Nature Reserves (*Mallophaga*) In: Mahunka, S.: The Bátorliget Nature Reserves-after forty Years. – Budapest, Akadémiai Kiadó, 323–331. p.
- Rothschild, M.–Clay, T. (1957): Fleas, flukes and cuckoos. A study of bird parasites, – London, 305 p.
- Rózsa, L. (1990): Elvadult házizgalamb populációk ektoparazita faunája Magyarországon. – Parasit. hung., 23: 115–119.
- Schäfer, L. (1963): Angaben zur Mallophagen-Fauna Ungarns. – Folia Ent. Hung., XVI., 10: 181–194.
- Schäfer, L. (1964 a): Mallophages de Hongrie et oiseaux parasités. – Extrait du Bulletin de la Société D'Histoire Nat. de Toulouse, 99, 1–2: 171–174.
- Schäfer, L. (1964 b): Sur la phylogénie des Mallophages. – Extrait du Bulletin de la Société D Hist. Nat., Toulouse, 99, 3–4: 312–316.
- Sasvári–Schäfer, L. (1966): Two new *Mallophaga* species from the territory of the Fauna in Chile. – Aquila, 71–72, 211–218.
- Sasvári–Schäfer, L. (1967): Die Befallsintensität einiger Vogelarten mit Mallophagen. – Angewandte Parasit., 8: 157–161.
- Schömmmer, Fr. (1913): Über die Mallophagen. – Dissertation, Inaugural, München, 102. pp.
- Timmermann, G. (1957): Studien zu einer vergleichenden Parasitologie der *Charadriiformes* oder Regenpfeifervögel I., *Mallophaga*. – Parasit, Schreibe, Jena, 8: 204
- Zlotorzycza, J. (1972): *Wszoly (Mallophaga) ptaków i ssaków udomowionych*. – Monografie Parazytologiczne, Warszawa Wrocław, 7: 136.
- Zlotorzycza, J.–Eichler, W.–Ludwig, H. W. (1974): Taxonomie und Biologie der Mallophagen und Läuse mitteleuropäischer Haus- und Nutztiere. – Parasit. Schreibe, Jena, 22: 160.
- Zlotorzycza, J.–Modrzejewska, M. (1988): *Catalogus faunae Poloniae Mallophaga*. – Warszawa, XIX., 1: 223.

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A magyarországi madarakon élősködő rágótetvek (*Mallophaga*)

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Magyarországon előforduló 17 rendbe tartozó 183 madárfaj ektoparazitológiai vizsgálatának eredményét mutatja be az 1. sz. táblázat. A 183 madárfajról összesen 363 rágótetű fajt gyűjtöttek és határoztak meg mind ez ideig Magyarországon. Ötven esetben csak genusig sikerült az élősködők meghatározása. Közel 170 madárfajról hazánkban még egyáltalán nem gyűjtöttek rágótetveket. A Magyarországon várható mintegy 800 rágótetűfaj felét sem sikerült mind ez ideig begyűjteni. Különösen a Passeriformes rendbe tartozó apró énekes madarak rágótetveit szükséges a jövőben gyűjteni a gyűrzések során, a természetvédelmi törvényt messzemenően figyelembe véve.

A gyűjtések intenzitását kívántuk szorgalmazni azzal is, hogy részletesen közöltük a rágótetvek ökológiai-gazdasági és közegészségügyi jelentőségét is. A gyűjtési módot is ismertettük. A legmagasabb rágótetűfajszám a bóbicén és a kolóniában fészkelő vetési varjú fordult elő. Elég sok rágótetűfaj került elő még a nagytestű gazdamadár fajokon is.

A dolgozat e témával kapcsolatos a teljes magyarországi irodalmat is közli.