

SOME RECORDS OF MALLOPHAGA FROM BRITISH COLUMBIA BIRDS

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The collections of Mallophaga of British Columbia birds, belonging to the Museum of Zoology at the University, consist of two series of alcoholic material, one of over 300 collections made from 1924 to 1928 and the other of some 200 collections made from 1928 to 1947. The first series is in the hands of Professor A. W. Baker of the Ontario Agricultural College at Guelph, pending completion of identification, while the second is at the University in Vancouver. I find that there is considerable difficulty in getting material in this Order identified since but few men are working on it in North America and of these none has time to make any identifications. Moreover, essential references are scattered back over one hundred years and are very expensive so that a considerable library is necessary to identify even the most common forms. Thus Professor Baker, to whom I sent the first series in 1927-28, was able to send me only one set of identifications by 1933 and none since then. In the meantime the collections are still in his possession.

The second series is being sent in small shipments, to Mr. Gordon B. Thompson, formerly of the British Museum, but now at the Science Museum of the Institute of Jamaica. When identifications come to hand from these men, the lists will be published from time to time and eventually all the material on which the lists are based, will be deposited in the museum of Zoology at the University of British Columbia.

It is 23 years since I started this collection, which is representative of the Mallophaga of a large number of common British Columbia birds with many records from scarce or rare species, so I feel that the publication of at least a partial list should no longer be delayed. The list that follows is the one sent to me by Professor Baker in 1933 and has been held up all this time pending the publication of his

monograph of the Mallophaga from Canadian birds which he has had in mind since 1911 but which his teaching duties and his services in the recent war, have prevented him from completing.

For convenience, the Mallophaga are arranged alphabetically, followed in each instance by the scientific and common names of the host, the locality, date and name of the collector. The names of the bird collectors are of importance because these men are (or were, in the case of the late Mr. R. A. Cummings) well known and reliable ornithologists of the Province and their identifications may be relied upon. In the few instances that I collected the birds myself, they were shown to an authority if there was any doubt about their identity. In some cases the lice were picked off by the men who shot the hosts and were given to me either in vials of alcohol or wrapped in cotton wool in papers inscribed with full details; in others, especially from 1940 onwards, the birds were handed to me for picking over before being made into skins. In all cases, the lice passed through my hands for washing, relaxing and final labelling.

The nomenclature of the Mallophaga is that of Harrison¹.

MALLOPHAGA AND HOSTS

Degeeriella biocellata Piaget 1880

Pica pica hudsonia (Sabine), Magpie.
Lake Ellswater, Alta., 25 June, 1926. M.
Y. W. Kamloops, 1934-'35. G. J. S.

Degeeriella deficiens Piaget 1885

Cyanocitta stelleri stelleri (Gmelin), Steller's Jay. Tofino, V.I., 4 July, 1926. G. J. S.

Degeeriella fusca Nitzsch 1842

Buteo swainsoni Bonaparte. Swainson's Hawk. Okanagan Landing, 25 May, 1925. K. R.

Degeeriella marginulata Harrison 1916

Ceophloeus pileatus picinus (Bangs), Western Pileated Woodpecker, Port Moody, 23 Jan., 1930. K. R.

(1) Harrison, Launcelot. 1916. The genera and species of Mallophaga. *Parasitology*, Vol. IX, No. 1. Cambridge.

- Degeeriella straminea** Denny 1842
Colaptes auratus Linn. Flicker. No data.
Asyndesmus lewisi (Gray), Lewis' Woodpecker. Vancouver, 2 May, 1931. R. A. C.
- Dennyus truncatus** Olfers 1816
Nephoecetes niger borealis (Kennerly), Northern Black Swift. Vancouver, 6 Sept., 1931. R. A. C.
- Ardea herodias fannini** Chapman. Northwestern Coast Heron. Tofino, V.I., 3 Aug., 1926. G. J. S.
- Esthiopterum columbae** Linn. 1758, the pigeon louse.
Columba fasciata fasciata (Say), Band-tailed Pigeon. Tofino, V.I., 26 Aug., 1926. G. J. S.; Lulu Is., 1 Jan., 1926; 28 Aug., 1929; 12 Aug., 1931. R. A. C.
- Esthiopterum crassicornis** Scopoli 1763. The squalid duck louse.
Clangula hyemalis (Linn.) Old Squaw Duck. Sea Island, Vancouver, Feb., 1931. R. A. C.
Glaucionetta islandica (Gmelin), Barrow's Golden-eye. Bowen Is., N.d. M. Y. W.
Mareca americana (Gmelin), American Widgeon. Sea Island, Vancouver, N.d. M. Y. W.
Spatula clypeata (Linn.), Shoveller. Sea Island, Vancouver, 5 May, 1928; Lulu Is., Oct., 1931. R. A. C.
- Eureum cimicoides** Nitzsch 1838
Nephoecetes niger borealis (Kennerly), Northern Black Swift. Vancouver, 16 Aug., 1930. R. A. C.
- Goniodes mammillatus** Rudow 1870
Lagopus leucurus leucurus (Richardson), White-tailed Ptarmigan. Alta Lake, 6 March, 1925. K. R.
- Goniodes piageti** Johnston & Harrison 1912
Columba fasciata fasciata (Say), Band-tailed Pigeon. Tofino, V.I., 26 Aug., 1926. G. J. S.
- Laemabothrion buteonivorus** Packard 1872
Buteo swainsoni Bonaparte, Swainson's Hawk. Okanagan Landing, May 1925. K.R.
- Menopus giganteum** Denny 1842
Columba fasciata fasciata Say, Band-tailed Pigeon, Lulu Is., 28 Aug., 1929. R. A. C.
- Myrsidea subaequalis** Lyonet 1829
Corvus brachyrhynchos hesperis Ridgway, Western Crow. Kamloops, April, 1926. K. R.
- Ornithobius cygni** Linn. 1758
Cygnus sp. probably *columbianus* Ord., Whistling Swan. Vancouver, 1 March, 1924. G. J. S.
- Ornithobius goniopleurus** Denny 1842
Branta canadensis occidentalis (Baird), White-cheeked Goose. Anyox, Feb., 1924. G. J. S.; Lulu Is., March, 1931. R. A. C.
Branta canadensis minima Ridgway, Cackling Goose. Pitt Meadows, 27 Oct., 1927. R. A. C.
- Philoaterus agelaii** Osborn 1896
Agelaius phoeniceus caurinus Ridgway, Northwestern Red-winged Blackbird. Lulu Is., April, 1927. G. J. S.
- Philoaterus californiensis** Kellogg 1896
Dryobates villosus harrisi (Audubon), Harris' Hairy Woodpecker. Seymour Mt., Vancouver, 29 April, 1929. R. A. C.
- Philoaterus dentatus** Scopoli 1763
Anas platyrhynchos Linn., Mallard. Langley Prairie, Nov., 1926. G. J. S.
Branta canadensis occidentalis (Baird), White-cheeked Goose. Anyox, Nov., 1924. G. J. S.
Glaucionetta islandica (Gmelin), Barrow's Golden-eye. Bowen Is., 12 Jan., 1931. M. Y. W.
- Philoaterus gonothorax** Giebel 1871
Larus sp. Gull. Tofino, V.I., July, 1926; 22 Aug., 1926. G. J. S.
Larus californicus Lawrence, California Gull, Vancouver, 1 Jan., 1929. R. A. C.
Larus hyperboreus barrovianus Ridgway, Glaucous Gull. Vancouver, 11 Feb., 1931; April, 1931. R. A. C.
Larus canus brachyrhynchos Richardson, Short-billed Gull. Vancouver, 2 Jan., 1931. R. A. C.
Larus philadelphia (Ord), Bonaparte's Gull. Sea Island, Vancouver, 18 April, 1929. R. A. C.
Larus glaucescens Naumann, Glaucous-winged Gull. Departure Bay, V.I., 1 March, 1929, 17 March, 1929, J. A. M. Tofino, V.I., 7 May, 1931. K. R.
- Philoaterus picae** Denny 1842
Pica pica hudsonia (Sabine), Magpie. Lake Ellswater, Alta., 25 June, 1926. M. Y. W.
- Philoaterus platysomus** Nitzsch 1838
Buteo swainsoni Bonaparte, Swainson's Hawk. Okanagan Landing, May, 1925. K.R.
- Philoaterus pustulosus** Nitzsch 1866
Stercorarius pomarinus (Temminck), Pomarine Jaeger. Lulu Is., Vancouver, April 1927. K. R.
- Philoaterus rutteri** Kellogg 1899
Penthestes gambeli grinnelli Van Rossem, Short-tailed Mountain Chickadee. Okanagan Landing, 10 Feb., 1926. K. R.
- Philoaterus subflavescens** Geoffrey 1762
Bombycilla garrula pallidiceps Reichenow, Bohemian Waxwing. Okanagan Landing, 14 Dec., 1926. J. A. M.
Cyanocitta stelleri annectens (Baird), Black-headed Jay. Lumby, 3 March, 1926; Okanagan Landing, 3 March, 1926. K.R.
Cyanocitta stelleri stelleri (Gmelin), Steller's Jay. Vancouver, 9 Dec., 1931. R. A. C.
Hesperiphona vespertina brooksi Grinnell, Evening Grosbeak. Vancouver, 10 April, 1926. R. A. C.
Lanius excubitor invictus Grinnell, Northern Shrike. Okanagan Landing, 17 Nov., 1925; 22 Feb., 1926. K. R.
Pinicola enucleator alascensis Ridgway, Alaska Pine Grosbeak. Okanagan Landing, 13 Feb., 1926. K. R.
- Ricinus diffusus** Kellogg 1896
Junco oreganus oreganus (Townsend), Oregon Junco. North Vancouver, 11 April, 1932. I. McT. C.

Trinoton anserinum Fabricius 1805
Branta canadensis minima (Ridgway),
Cackling Goose. Pitt Meadows, 27 Oct.,
1927. R. A. C.

Branta canadensis occidentalis (Baird),
Western Canada Goose. Lulu Is., Vancou-
ver, March, 1931; 1 April, 1931. R. A. C.

Chen hyperborea (Pallas), Snow Goose.
Lulu Is., Vancouver, 5 March, 1926. G.J.S.

Trinoton lituratum Nitzsch 1838
Anas platyrhynchos Linn., Mallard. Lang-
ley Prairie, Nov., 1926. G. J. S.

Trinoton querquedulae Linn. 1758
Anas acuta Vieillot, Pintail Duck. Vancou-
ver, Oct., 1931. R. A. C.; Pitt Meadows,
10 Dec., 1929. K. R.; Lulu Is., Vancouver,
Oct., 1931. R. A. C.

Anas tzitzihua Vieillet, American Pintail.
Sea Is., Vancouver, 30 Jan., 1929. R. A. C.

Anas platyrhynchos Linn., Mallard. North
Vancouver, 14 Dec., 1927. I. McT. C.; Sea
Is., Vancouver, 17 Jan., 1930. E. E. P.

Anas strepera Linn., Gadwall. Lulu Is.,
Vancouver, 20 Nov., 1926. M. Y. W.

Mareca americana (Gmelin), Baldpate
Duck. Lulu Is., Vancouver, 1927. R. A. C.
Spatula clypeata (Linn.), Shoveller Duck.
Lulu Is., Vancouver, Oct., 1931. R. A. C.

HOST LIST WITH PARASITES

Order CICONIFORMES

Ardea herodias fannini Chapman, North-
western Coast Heron.
Esthiopterum ardeae Linn.

Order ANSERIFORMES

Cygnus sp. probably **columbianus** Ord.,
Whistling Swan.

Ornithobius cygni Linn.

Branta canadensis minima (Ridgway), Cack-
ling Goose.

Ornithobius goniopleurus Denny

Trinoton anserinum Fab.

Branta canadensis occidentalis (Baird),
White-checked Goose.

Ornithobius goniopleurus Denny

Philapterus dentatus Scop.

Trinoton anserinum Fab.

Chen hyperborea (Pallas), Snow Goose.

Trinoton anserinum Fab.

Anas acuta Vieillot, Pintail.

Trinoton querquedulae Linn.

Anas platyrhynchos Linn., Mallard.

Philapterus dentatus Scop.

Trinoton lituratum Nitzsch.

Trinoton querquedulae Linn.

Anas strepera Linn., Gadwall.

Trinoton querquedulae Linn.

Mareca americana (Gmelin), American
Widgeon.

Esthiopterum crassicornae Scop.

Trinoton querquedulae Linn.

Spatula clypeata (Linn.), Shoveller Duck.

Esthiopterum crassicornae Scop.

Trinoton querquedulae Linn.

Glaucionetta islandica (Gmelin), Barrow's
Golden-eye.

Esthiopterum crassicornae Scop.

Philapterus dentatus Scop.

Clangula hyemalis (Linn.), Old Squaw Duck.

Esthiopterum crassicornae Scop.

Order FALCONIFORMES

Buteo swainsoni Bonaparte, Swainson's Hawk.

Degeeriella fusca Nitz.

Laemobothrion buteonivorus Packard

Philapterus platysomus Nitz.

Order GALLIFORMES

Lagopus leucurus leucurus (Richardson),

White-tailed Ptarmigan.

Goniodes mammilatus Rudow

Order CHARADRIIFORMES

Stercorarius pomarinus (Temminck), Poma-
rine Jaeger.

Philapterus pustulosus Nitz.

Larus californicus Lawrence, California Gull.

Philapterus gonothorax Giebel.

Larus canus brachyrhynchus Richardson,

Short-billed Gull.

Philapterus gonothorax Giebel

Larus glaucescens Naumann, Glaucous-
winged Gull.

Philapterus gonothorax Giebel

Larus hyperboreus barrovianus Ridgway,
Glaucous Gull.

Philapterus gonothorax Giebel

Larus philadelphia (Ord.), Bonaparte's Gull.

Philapterus gonothorax Giebel

Order COLUMBIFORMES

Columba fasciata fasciata (Say), Band-tailed
Pigeon.

Esthiopterum columbae Linn.

Goniodes piayeti Johnston and Harrison

Mcnopon giganteum Denny

Columba sp., Domestic Pigeon.

Esthiopterum columbae Linn.

Order MICROPODIFORMES

Nephoecetes niger borealis (Kennerly),

Northern Black Swift.

Dennyus truncatus Olfers

Eureum cimicoides Nitz.

Order PICIFORMES

Colaptes auratus Linn., Flicker.

Degeeriella straminea Denny

Ceophloeus pileatus picinus (Bangs), West-
ern Pileated Woodpecker.

Degeeriella marginulata Harr.

Asyndesmus lewisi (Gray), Lewis' Wood-
pecker.

Degeeriella straminea Denny

Dryobates villosus harrisi (Audubon), Harris'
Hairy Woodpecker.

Philapterus californiensis Kell.

Order PASSERIFORMES

Cyanocitta stelleri annectens (Baird), Black-
headed Jay.

Philapterus subflavescens Geoff.

- Cyanocitta stelleri stelleri** (Gmelin), Steller's Jay.
Degeeriella deficiens Piaget
Philopterus subflavescens Geoff.
- Pica pica hudsonia** (Sabine), Magpie.
Degeeriella biocellata Piaget
Philopterus picae Denny
- Corvus brachyrhynchos hesperis** Ridgway, Western Crow.
Myrsiodes subaequalis Lyonet
- Penthestes gambeli grinnelli** Van Rossem, Short-tailed Mountain Chickadee.
Philopterus rutteri Kell.
- Bombycilla garrula pallidiceps** Reichenow, Bohemian Waxwing.
Philopterus subflavescens Geoff.
- Lanius excubitor invictus** Grinnell, Northern Shrike.
Philopterus subflavescens Geoff.
- Agelaius phoeniceus caurinus** Ridgway, Northwestern Red-winged Blackbird.
Philopterus agelaii Osb.
- Hesperiphona vespertina brooksi** Grinnell, Evening Grosbeak.
Philopterus subflavescens Geoff.
- Pinicola enucleator alascensis** Ridgway, Alaska Pine Grosbeak.
Philopterus subflavescens Geoff.
- Junco oreganus oreganus** (Townsend), Oregon Junco.
Ricinus diffusus Kell.

KEY TO COLLECTORS

I. McT. C.	Jan McTaggart Cowan
R. A. C.	(the late) R. A. Cummings
J. A. M.	J. A. Munro
E. E. P.	Ernest E. Peden
K. R.	Kenneth Racey
G. J. S.	G. J. Spencer
M. Y. W.	M. Y. Williams

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NOTES ON SOME DERMESTIDAE OF BRITISH COLUMBIA (Coleoptera)

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During the last 16 years in the dry belt of this province, I have collected all the Dermestidae I could lay hands on, but so far have obtained only 13 identified, and 2 unidentified species belonging to the Megatomini. The late Kenneth Auden, a most assiduous beetle collector, also obtained only 15 species so these few may be fairly representative. Over 700 species have been named in this family and Leng lists 123 for America north of Mexico, so further collecting may reveal several more for British Columbia.

The numbers in which they occur at any one time in the dry belt, vary greatly. The best sources for adults of small species are flowers such as choke cherry, wild spiraea, death camas, and water hemlock, and for adults and larvae of larger species, the hides of sheep that have died on the ranges during the winter, and any carrion.

Dermestes marmoratus Say, our largest species, may be found under animal re-

mains on the ranges and under sheep skins that shepherds have left lying about. Both adults and larvae are most readily found in such situations although any dry carrion attracts them.

From the standpoint of numbers and ease of collecting, two species head the list, *Dermestes talpinus* Mann. and *Dermestes signatus* Lec. These come to carrion after the first wave of carrion-beetles and *marmoratus* has passed and the carcasses are drying and not so smelly.

Dermestes frischii Kug. is not common but generally occurs singly or in small numbers on carcasses that have been well picked over by bears and coyotes.

I have never taken *D. maculatus* DeGeer 1774 (= *vulpinus* Fabr. 1781) out of doors. The large series in our collections was reared from a dried wolf carcass stored in the laboratory pending cleaning up. The larvae from the dried wolf scattered in all directions, invading three