

These results are plotted in fig. 2.

To test duration of wetting effect, animal c), subjected to the 2cc. fuel oil on water, was kept in a dry pen for four days and then put in a tank of clean water. In two hours its fur had become wet and the animal was sinking.

Conclusion

Fuel oil has a persistent and cumulative wetting effect on muskrats. The results of these tests suggest that the oil in which D.D.T. is sprayed on marshes in which muskrats are living is likely to have a more deleterious effect on the animals than the D.D.T.

NOTES ON DOWNY PLUMAGES OF LOONS (GAVIIDAE)¹

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IN 1944 Dr. Louis B. Bishop described the first downy plumage of the four species of loons, all from specimens in the Bishop collection, now part of the Chicago Natural History Museum collection. Mr. L. L. Snyder of Royal Ontario Museum has written me pointing out some surprising conclusions from this work: notably that the downy young of *Gavia immer* and *G. arctica* closely resemble each other as do *G. adamsii* and *G. stellata*. One would have expected that *G. immer* and *G. adamsii*, representative species, certainly members of the same super-species if not actually conspecific, would have been most alike. Consequently I have gone over all the material in the Chicago Natural History Museum.

Apparently some misidentification affected Bishop's work and the birds described as *G. immer elasson* from Churchill are actually *G. arctica pacifica*. Another point that Bishop made was that patterns of fine dark lines were present in the plumages of several species. These lines, present in the specimens, seem not to be part of the pattern but rather to be the results of folds in the skin pushing the down together locally and thus giving darker lines and areas.

Loons have two sets of down: the first coat in which they hatch, and a second set of down that pushes out the first and carries it on its tips, later to be pushed out by the feathers of the first winter plumage. The present notes deal only with the first set of down. It is sometimes said that the downy loons become paler as they become larger. This could result from fading; from the mechanical spreading of the same amount of down over a larger area; and from a paler color of the second down coat. This is not apparent in the scanty material of small

downies available to me. In *G. stellata*, of which we have four downies with more size variation than in our series of any other species the largest is about as dark as the smallest.

Though the downy young of loons have been described a number of times it seems advisable to re-describe the present material. All young loons are fairly similar, and due to the very similarity, I feel a generally-worded description, plus a comparison with each other is more useful than a detailed description and comparison with some color standard.

Gavia immer (Brunnich). **Common Loon.**

We have two downy young, probably not more than a week or so old. One has an exposed culmen of 13, the other 15 mm. One is from Lake Winnipegosis, Manitoba, the other from Wood Co., Wisconsin.

The Manitoba downy is brownish black, nearly black, above, with throat, upper breast and flanks somewhat greyer. The lower breast and belly is white, strongly tinged yellow (normal?) and this area is margined with grey.

The Wisconsin young, slightly larger, is similar but somewhat browner above, and with the lower breast and belly plain white, barely tinged yellow posteriorly; the grey outlining the white area is indistinct.

The bills of both, whitish egg tooth still in place, are stout; in color blackish horn, paler toward the tip (dried skin).

Bent, 1919, p. 51; Witherby, 1940, p. 116; and Forbush, 1925, p. 17, describe the downy young much as the above, but do not mention any yellow tinge to the white underparts such as our one specimen shows. Bishop's (1944, p. 182) description of *G. immer elasson* is of *G. a. pacifica*.

1) Received for publication February 26, 1953.

Gavia adamsii (Gray). **Yellow-billed Loon.**

We have two downy young from near Barrow Alaska (Chipp River) that Bishop (1944, p. 182) described. Presumably they are less than a week old. Their exposed culmens measure 13 and 14 mm.

Their upperparts are dark brownish, considerably paler than the paler of the two *G. immer* chicks; the throat, upper breast, and flanks paler than the back; the lower breast and abdomen are covered with a white area, sharply defined against the surrounding dark, and with a faint grey margin, less conspicuous than in *G. immer*.

The bill, each with the whitish egg tooth attached, is stout like that of *G. immer*; in color white, with the area about the nostrils, and the base of the lower mandible blackish (dried skin).

The pattern of fine lines described by Bishop (1944, p. 182) seems to be due to folds in the skin.

Bent's (1919, p. 62) description of the downy young agrees with the above in giving the general color as very light (presumably compared with *G. immer*, though he gives the underparts only as "tulleul buff" or nearly white on the belly, and makes no mention of the conspicuous bill color.

Gavia stellata (Pontoppidan). **Red-throated Loon.**

We have four downy young from Barrow and Stewart, Alaska. The smallest is probably less than a week old; their exposed culmens measure: 11, 13, 15, 18 mm.

The upperparts are blackish brown to greyish brown, varying individually, averaging between that of *G. immer* and *G. adamsii*. The largest bird is little paler than the smallest. The throat, upper breast, and flanks are like upperparts but paler; the lower breast and abdomen are dull grey in all four specimens, the area sharply defined from the surrounding darker down.

Their bills are slender, each with whitish egg tooth attached; in color dark horn slightly paler at the tip of upper mandible, and whitish on the tip of the lower mandible.

Bent (1919, p. 76) and Forbush (1925, p. 28) describe the downy young as dark brown above, shading to drab below. Bishop's (1944, p. 182) mention of fine lines seems due to mistaking the results of folds in the skin for actual pattern. Sutton (1932, p. 23) says the soft parts of the downy young of this bird are: eye dull brown; bill and feet dusky,

darker than in *G. a. pacifica*; and the feet lacking the greenish tinge of the latter.

Gavia arctica pacifica (Lawrence). **Pacific Loon.**

We have three young from Churchill, one labeled by A. M. Heydweiller as about two days old (exposed culmen 10 mm.) and two collected by A. L. Wilk from one nest, of about the same age (exposed culmen 9, 11 mm.).

These have the upper parts of the body dusky or brownish grey, greyer than the other species; top of head and neck considerably paler grey like the rest of the head, neck, upper breast, and flanks; lower breast and belly varies from grey tinged whitish to a whitish area fairly well defined from the surrounding grey down (note that this variation occurs in two nest mates).

Bill slender, whitish egg tooth attached in each case; in color dark horn with a slaty tinge, slightly paler at tip.

Bent (1919, p. 69) and Forbush (1925, p. 27) mention the paling of the color on the head. Witherby (1940, p. 122) makes no mention of the paler head in the European bird, *G. a. arctica*, and says the downy young is like that of *G. stellata*, which is not true of the American birds of these two species.

Bishop's (1944, p. 182) description of *G. immer elasson* is based on a specimen of *G. arctica pacifica*, and the pattern he described is caused by folds in the skin.

Sutton (1932, pl. XXII, fig. 5) figures the head, breast, and soft parts of the fresh downy young as paler and greyer than our specimens; the bill is grey, foot greenish grey. On page 17 he gives: eye of newly hatched young dull gray brown; bill dull blue-grey, lighter on tip.

Comparisons

Gavia immer and *G. adamsii* are very similar in having a heavy bill, in dark upperparts and a well defined white ventral area; they differ chiefly in the lighter and slightly browner down, and the white bill of *G. adamsii*.

Gavia stellata and *G. p. arctica* differ from the above two species in the more slender bill. *G. stellata* in general color is between *G. immer* and *G. adamsii* but differs from both in having the ventral area dull grey, not white.

Gavia p. arctica is the greyest of the four, and has the crown paler grey contrasting

with the back, and the belly variable, whitish to whitish tinged only.

It is interesting that in two cases the downy young characters foreshadow characters conspicuous in the adult: the pale bill of *G. adamsii* and the grey crown and nape of *G. arctica pacifica*.

It seems that the downy young of each species is moderately distinct. As to relationships of the species the downy young are all rather similar, and afford no convincing clues as to relations within the group.

Summary

The downy young of the four species of loon are described, compared with previous descriptions, and discrepancies noted. Comparisons of the downy young do not indicate intra-group relationships any more clearly than do the adults.

Literature Cited

Bent, A. C.
1919. Life histories of North American diving birds. U. S. National Museum, Bulletin 107, pp. 1-239.

Bishop, L. B.
1944. Ornithological notes from Point Barrow, Alaska. Zool. Ser. Field Mus. Nat. Hist., 29, pp. 181-190.

Forbush, E. H.
1925. Birds of Massachusetts, etc., Vol. 1, pp. 1-481, Mass. Dept. Agric.

Sutton, G. M.
1932. The Birds of Southampton Island, Mem. Carnegie Mus., Vol. 12, Part II, Sect. 2, pp. 1-275.

Witherby, H. F. et al
1940. The Handbook of British Birds, Vol. 4, pp. 1-461, Witherby, Ltd., London.

ANNUAL MEETING OF THE

OTTAWA FIELD-NATURALISTS' CLUB, DECEMBER 3, 1953

Report of Council

Since the last Annual Meeting, there were five meetings of Council held at St. Patrick's College: December 8, 1952, with 23 members present; January 23, 1953, with 25 members present; May 20, 1953, with 13 members present; October 30, 1953, with 14 members present; and November 26, 1953, with 17 members present.

Appointments were made for 1953 as follows:

- Editor of the Canadian Field-Naturalist — Dr. H. A. Senn.
- Business Manager — Mr. W. J. Cody.
- Chairman of the Publications Committee — Dr. L. S. Russell.
- Chairman of the Excursions and Lectures Committee — Prof. W. I. Illman.
- Chairman of the Reserve Fund Committee— Mr. Hoyes Lloyd.
- Chairman of the Special Lectures Committee — Dr. L. S. Russell.
- Chairman of the Membership Committee — Miss Verna Ross.
- Chairman of the Bird Census Committee — Mr. R. D. Harris.
- Chairman of the Macoun Field Club Committee — Mr. W. K. W. Baldwin.
- Chairman of the Gatineau Park Advisory Committee — Col. W. W. Mair.

Representatives, Canadian Section, International Committee for Bird Preservation — Dr. H. F. Lewis, Mr. Hoyes Lloyd.

Report of the Publications Committee

During the period December 1, 1952 to December 1, 1953, three numbers of Volume 66 and four numbers of Volume 67 of The Canadian Field-Naturalist were published, with a total of 282 pages. Beginning with Volume 67, 1953, The Canadian Field-Naturalist was published on a quarterly basis. Papers, notes and reviews were distributed as follows:

	Papers	Notes	Reviews
Botany	11	1	3
Entomology	1	1	1
Herpetology	1	1	1
Ichthyology	4	1	
Invertebrate Zoology	1	2	
Mammalogy	4	5	4
Ornithology	11	22	11
Palaeontology	1		
Parasitology		1	
Miscellaneous			5

Thirteen maps and twenty other illustrations were used. Sale of back numbers of the Naturalist during the year amounted to \$398.90.



Rand, Austin Loomer. 1954. "Notes on downy plumages of loons (Gaviidae)." *The Canadian field-naturalist* 68(1), 13–15. <https://doi.org/10.5962/p.341513>.

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