

terus from the Adirondacks (Bull. N. O. C., Vol. VI, No. 4, Oct. 1880, p. 235). I did not kill the bird, but saw them (there were two) for several hours flying about a pond. They were smaller than *argentatus*, and the primaries were without black tips. This was just after the ice had gone out of the lakes in April, 1878."

BIRD NOMENCLATURE OF THE CHIPPEWA INDIANS.

BY W. W. COOKE.

DURING a three years' residence among the Chippewas at White Earth, Minn., I had many opportunities of learning the names which they give to birds, and some of their ideas regarding them. These Indians claim to have a name for each and every kind of bird inhabiting their county; as a fact, they have no specific name for fully one-half of those which yearly nest before their eyes, or pass by in migration. We may say in general that they give names to all winter residents, since at that time bird life is so scarce that each one is accurately noticed, while summer birds of much greater dissimilarity receive but one name.

Among summer residents, nearly all those that are hunted for food are named and described. Indeed, few white hunters, or ornithologists, can recognize the different species of Ducks as quickly or at as great a distance as many of these Indians. Of the other summer birds, most of the large species have names, but some of these, as, for example, those of the Hawks and Owls, are very loosely applied. They all seem to be familiar with the names, but not with the particular bird to which each belongs. This may be accounted for by the large number of stories about these birds which are told to the children, teaching them the names, but not the appearance of the birds. The small birds of summer seem to the Indian beneath his notice, and when asked the name, the answer not uncommonly is, "Why do you want to know its name? It isn't good to eat." They consider that when to a small winged animal they have given the name 'bird,' they have done their whole duty.

In regard to the etymological meaning of the bird names, we find, as in English, that some are descriptive of the bird or its habits, while others are mere names, without signification. A large proportion are compounds, for the language as a whole is compound, with but few roots, these usually having meaning. The names of most of the large, common, and best known birds are simple and without signification.

All the bird names used by Longfellow in 'Hiawatha' were identified except *O-wais'-sa*, the Bluebird; *Chi-to'-wak*, the Plover, and *Wa-won-e'-za*, the Whippoorwill. Longfellow says the scene of his poem is laid among the Indians of the Pictured Rocks of Lake Superior, but I was unable to find any Indian who had ever heard these names, though I examined several who were born and brought up along the southeast shore of the lake. It may be that these words belong to the Canadian Chippewas or *Nah-tah-was*, and have been accidentally introduced among the names of the western tribe.

The names given by Bishop Barega, in his dictionary of the Ojibwa Language, have all been identified except *A-mik'-o-shib*, the Beaver Duck; *O-da'-ma-we'-shi*, a small white bird; *Ja-wa'-ni-bi-ne'-shi*, South Bird; *Du-qua'-que-we'-shib*, Short-necked Duck, and *Mi'-gi-san-na-nis'-si*, Eagle-fighter, a small blue bird. Unfortunately the Bishop, though a good theologian, was no ornithologist, and besides saying "Are not two *swallows* sold for a farthing?" he has wrongly identified nearly one-half of the birds he has named.

The list, as it now stands, is practically complete. At the outside there are not more than five or six names to be added.

In these names the French system of spelling is used—that is, *a* has the sound of a in ah; *e* is pronounced like a long; *i*, like e long; *o*, like o long, *u*, like u short; *ai*, like i long; *j*, like zh; *g*, usually like g hard; in the few cases where *g* is soft it is distinguished by being printed in *Italic* type.

The English name is given first, then the Latin, according to the Smithsonian Catalogue, then the Chippewa, then the etymological meaning of the Indian name, and lastly, remarks.

THRUSH, in general, *A-nuk'*.

1. OLIVE-BACKED THRUSH. *Hylocichla ustulata swainsoni*. **A-nuk'**.
Mere name.

2. WILSON'S THRUSH. *Hylocichla fuscescens*. **An-wak'**. Name.

3. AMERICAN ROBIN. *Merula migratoria*. O-pi'-che. Name.
4. CATBIRD. *Galeoscoptes carolinensis*. Ma-ma'-dwe-bi-ne'-shi, the bird that cries with grief; referring to its note.
5. BROWN THRUSH. *Harporhynchus rufus*. Chi'-a-nuk', big Thrush.
6. BLUEBIRD. *Sialia sialis*. O-zou-wash'-ko-bi-ne'-shi, the blue colored bird.
7. BLACK-CAPPED CHICKADEE. *Parus atricapillus*. Kitch'-i-kitch'-i-ga'-ne-shi. Attempted mimicry of its song.
8. WHITE-BELLIED NUTHATCH. *Sitta carolinensis*. Chi-chi-ga'-nanda-we'-shi. Imitation of song.
9. RED-BELLIED NUTHATCH. *Sitta canadensis*. Ki-ki-bi'-di-ko-me'-shi. Imitation. Some claim that this is merely another name for *S. carolinensis*.
10. HOUSE WREN. *Troglodytes ædon*. O-du-na'-mis-sug-ud-da-we'-shi, making a big noise for its size. They do not distinguish it from the Winter Wren.
11. MARSH WREN. *Telmatodytes palustris* and *Cistothorus stellaris*. Mus-ko'-zi-bi-ne'-shi, marsh bird. They do not distinguish between the two Wrens, nor between these and the Swamp Sparrow (*Melospiza palustris*).
12. SUMMER YELLOWBIRD. *Dendræca æstiva*. O-za'-wa-bi-ne'-shi, yellowbird. They would also apply the same name to all the Warblers which have much yellow, thinking that they are all one and the same species.
13. BLACK-THROATED BLUE WARBLER. *Dendræca cærulescens*. O-ja'-wa-no, bluebird. Of this I am not sure, although I have it on good authority.
14. VIREO. Not a Vireo is named.
15. SHRIKE. *Lanius borealis*. Kitch'-i-win'-di-go-bi-ne'-shi, big cannibal-bird.
16. BOHEMIAN WAXWING. *Ampelis garrulus*. O-ze'-gi-ban-wan'-i-shin, crested bird.
17. CEDAR WAXWING. *Ampelis cedrorum*. O'-gi-ma-bi-ne'-shi, the bird that is king or chief.
18. PURPLE MARTIN. *Progne subis*. Mu-ku-de'-shau-shau'-wun-ni-bi'-si, black Swallow. All other Swallows, Shau-shau'-wun-ni-bi-sence', little bird that tumbles over and over in the air; alluding to its manner of flying.
19. SCARLET TANAGER. *Pyranga rubra*. O-da'-gi-na-ma-ne'-shi. Could not learn its meaning. The name *Ish'-ko-de-bi-ne'-shi*, fire bird, is also applied to it, just as the whites call it the Firebird.
20. EVENING GROSBEEK. *Hesperiphona vespertina*. Pash-kan'-damo. Refers to a noise made by breaking something, but I am unable to find any reason for applying it to this bird.
21. PINE GROSBEEK. *Pinicola enucleator*. O-ka-nis'-se. Mere name.
22. CROSSBILL, both species. A'-ji-de-ko-ne'-shi, having a crossed bill.
23. AMERICAN GOLDFINCH. *Astrigalinus tristis*. Bi-yung'. Name.

24. SNOW BUNTING. *Plectrophanes nivalis*. Wa'-bu-nong-o'-zi, morning star bird; application not obvious.
25. SONG SPARROW. *Melospiza fasciata*. Kos-kos-ko-ni'-chi, making a scraping or whispering noise. This name is also indiscriminately applied to any small dull-colored bird, which is seen in the grass or on low shrubs. Probably thirty or more species would be included under this name.
26. BLACK SNOWBIRD. *Junco hyemalis*. Bu-te'-shi-wish. Name.
27. TOWHEE BUNTING. *Pipilo erythrophthalmus*. Muk-ud-e'-ai-a'-nuk, black Thrush.
28. ROSE-BREASTED GROSBEAK. They must have a name for it, but I failed to find it.
29. BOBOLINK. *Dolichonyx oryzivorus*. Shi-ka'-go-bi-ne'-shi. Chicago bird, that is, skunk bird, from the white stripe down the middle of the back.
30. COWBIRD. *Molothrus ater*. A-ga'-jid-as-sig'-gi-nak, small Blackbird.
31. YELLOW-HEADED BLACKBIRD. *Xanthocephalus icterocephalus*. Bwan-ence'-as-sig'-gi-nak, little Sioux blackbird; because its home is in the west, in the land of the Sioux.
32. RED-WINGED BLACKBIRD. *Agelaius phoeniceus*. Me'-mis-ko-di'-ni-mang-a-ne'-shi, the red-shouldered bird.
33. BLACKBIRD, in general. As-sig'-gi-nak, living in flocks.
34. MEADOW LARK. Very scarce in the land of the Chippewas, and I could find no one who had ever heard a name for it.
35. BALTIMORE ORIOLE. *Icterus galbula*. Wa-do'-pi-bi-ne'-shi, poplar or willow bird; from its nesting so frequently on the boughs of these trees.
36. PURPLE GRACKLE. *Quiscalus purpureus*. Chi-as-sig-gi-nak, big Blackbird.
37. AMERICAN RAVEN. *Corvus corax carnivorus*. Ka-gog-i'. Name.
38. CROW. *Corvus frugivorus*. An-deg'. Two meanings are given, (1) "renewal," referring to the spring, and (2) "those that come," meaning those that migrate, in contradistinction to the Raven, which is resident. Whichever meaning is the true one, it remains a fact that the Chippewas look upon the coming of the Crow as the sign of spring, and say: "We will soon be making sugar. The Crows have come." All signs are fallible, and I have seen it 35° below zero after the Crows had made their appearance.
39. MAGPIE. *Pica rustica hudsonica*. A-pish'-ka-gog-i', like the Raven.
40. BLUE JAY. *Cyanocitta cristata*. Jan-di'-si. Name.
41. CANADA JAY. *Perisoreus canadensis*. Guin-gui'-shi. Name.
42. SHORE LARK. *Eremophila alpestris*. O-za'-wa-wa'-bu-nong-o'-zi, yellow Snow Bunting.
43. KINGBIRD. *Tyrannus carolinensis*. Win'-di-go-bi-ne-shi. Cannibal bird, or the bird which has the characteristics of a cannibal giant.

It will be noticed that they give the same name to the Shrike and the Kingbird; a name which refers both to the butchering qualities of the one and the fighting qualities of the other.

44. PHŒBE. No name, and none for the rest of the Flycatchers.

45. RUBY-THROATED HUMMER. *Trochilus colubris*. Nen-o-ka'-si. Name.

46. CHIMNEY SWIFT. *Chaetura pelagica*. Me-mit'-ti-go-ning-gue-ga-ne'-si, wooden quills, in allusion to the stiff tail-feathers.

47. WHIPPOORWILL. *Caprimulgus vociferus*. Gwen-go-wi-a', imitation of cry. As the Indian pronounces it, it is a better imitation than our English *whip-poor-will*.

48. NIGHTHAWK. *Chordiles popetue*. Besh-que', imitation of the peculiar noise it makes as it swoops down when flying.

49. HAIRY and DOWNY WOODPECKERS. *Picus pubescens* and *P. villosus*. Pa-pa'-se, cracking, from the noise the bird makes in pecking at trees. *Picoides arcticus* and *Sphyrapicus varius* occur, but are not distinguished from *Picus villosus*.

50. PILEATED WOODPECKER. *Hylotomus pileatus*. Me'-me, probably from its cry.

51. RED-HEADED WOODPECKER. *Melanerpes erythrocephalus*. Pa'-que-a-mo', the bird that breaks off pieces.

52. YELLOW-SHAFTED FLICKER. *Colaptes auratus*. Mo-ning'-gua-ne', bird with dirty colored wings.

53. KINGFISHER. *Ceryle alcyon*. O-gish'-ki-mun-is-si', cut up to a point, as the Indians dress their hair on state occasions; referring of course to the bird's crest.

54. CUCKOO, both species. Pi-gua-o-ko'-que-o-we'-shi, imitation of note, which in Indian, as in English, is supposed to foretell rain.

55. OWL, in general. O-ko'-ko-ko-o', afraid. The word is now used in Chippewa with that meaning. I suspect, though I have no authority for it, that the name was originally given to the bird in imitation of its note; and then, as its habits during the day time became known, the word came later to have its present meaning.

56. LONG-EARED OWL. Distinguished but not named.

57. SHORT-EARED OWL. Not distinguished.

58. BARN OWL. *Aluco flammeus americanus*. Bo'-du-wi-dom-be'. No meaning that I can find.

59. BARRED OWL. *Strix nebulosa*. Wen'-gi-du-ko-ko-ko-o', true Owl.

60. GREAT GRAY OWL. *Ulula cinerea*. We-wen'-gi-ga-no'. No meaning found.

61. LITTLE SCREECH OWL. *Scops asio*. Ka-kab'-i-shi. Mere name.

62. GREAT HORNED OWL. *Bubo virginianus*. O-tow'-i-ge-o-ko'-ko-ko-o', horned Owl.

63. SNOWY OWL. *Nyctea scandiaca*. Wa'-bi-o-ko'-ko-o', white Owl.

64. HAWK OWL. No name found.

65. HAWK, in general. Ke-kek', mere name, unless possibly imitation of scream.

66. SPARROW HAWK. *Tinnunculus sparverius*. Pi-pi'-gi-wi-zance', a diminutive name.

67. FISH HAWK. *Pandion haliaëtus carolinensis*. Mi'-gi-ki-gua-ne'. Name.

68. SWALLOW-TAILED KITE. *Elanus forficatus*. Kitch'-i-shau-shau'-won-ni-bi'-si, big Swallow.

69. MARSH HAWK. *Circus hudsonius*. O-no'-gi-gi-neb-i-que'-si, snake hunter.

70, 71. COOPER'S HAWK and SHARP-SHINNED HAWK (*Accipiter cooperi* and *A. fuscus*) are both called Ke-kek'. When wishing to distinguish them, *A. cooperi* is called Mish'-i-ke-kek', hairy Hawk; application not obvious.

72. RED-TAILED HAWK. *Buteo borealis*. Mis'-qua-na-ni'-si, small red Hawk.

73. GOSHAWK. *Astur atricapillus*. Ki-bwan'-i-si. I think this is correctly identified. It was given to me as "a large Hawk which stays here all winter," and I think the Goshawk is the only one that remains habitually in northern Minnesota during the winter.

74. ROUGH-LEGGED HAWK. *Archibuteo lagopus sancti-johannis*. Mu-ku-de'-ke-kek', black Hawk.

75. SWAINSON'S HAWK. *Buteo swainsoni*. Tchai-ince'. Mere name. Of this I am not sure, and I think it not unlikely that *B. lineatus*, *B. swainsoni*, and *B. pennsylvanica*, all come in for a share in this name.

76. GOLDEN EAGLE. *Aquila chrysaëtos canadensis*. Gi-neu'. Name. This is the War Eagle of the Chippewas, and its tail-feathers are highly prized as head ornaments.

77. BALD EAGLE. *Haliaëtus leucocephalus*. Mi'-gi-zi. Name. When young, or gray, it is called Ini'-ni-zi, man Eagle; when old and white, Wa'-bi-jush-kwe', white woman.

78. TURKEY BUZZARD. *Cathartes aura*. Wi-nong'-a, dirty wing.

79. PIGEON. *Ectopistes migratoria*. O-mi'-mi. Imitation of note.

80. MOURNING DOVE. *Zenaidura carolinensis*. Not distinguished, but the tame Dove is called Wa'-ba-mi'-mi, white Pigeon.

81. TURKEY. *Meleagris gallopavo americana*. Mi-sis'-si. Name. They call the Peacock the 'splendid Turkey.'

82. CANADA GROUSE. *Canace canadensis*. Mus-ko-de'-se, prairie bird.

83. PRAIRIE HEN. *Cupidonia cupido*. A-gusk', imitation of call in spring. The Sharp-tailed Grouse is quite as common as *C. cupido*, but is not distinguished.

84. QUAIL. *Ortyx virginianus*. No name.

85. RUFFED GROUSE. *Bonasa umbellus*. Wen'-gi-da-bi-ne', true Grouse. Grouse in general, Bi-ne'. Mere name.

86. GREAT BLUE HERON. *Ardea herodias*. Shu-shu'-ga. Name; possibly imitative.

87. AMERICAN BITTERN. *Botaurus lentiginosus*. Mosh-ka-was-shi, coming up from under. The Indians claim that it makes its cry while

holding its head under water, so that the sound has to come up out of the water.

88. LEAST BITTERN. *Ardetta exilis*. **Ga-na-wa'-bi-mo-gi'-zis-si-swesh'-in**, the bird that looks at the sun; referring to its habit of climbing upon reed stalks and then holding up its head, as if looking toward the heavens.

89. GOLDEN PLOVER. *Charadrius dominicus*. **O-za'-wa-gi'-gak-o-chu-is-ki-wen'**, yellow Crane Sandpiper.

90. KILLDEER. *Oxyechus vociferus*. **Mus-ko-de'-chi-chi-ji'-twish-ki-wen'**, big prairie Sandpiper.

91. WOODCOCK. *Philohela minor*. **Kitch'-i-pa-dash'-ka-an'-ja**, big Snipe.

92. WILSON'S SNIPE. *Gallinago media wilsoni*. **Pa-dash'-ka-an'-ja**, bill long and pointed.

93. SANDPIPERS, in general, and the Pectoral Sandpiper (*Actodromas maculata*) in particular, **Ji-twish'-ki-wen'**. Poor imitation of cry.

94. CURLEW. Am told it has a name, but have been unable to find it.

95. SORA RAIL. *Porzana carolina*. **Mo-no'-min-i-kesh'-i**, rice bird, from its living in the swamps of wild rice. This is the only Rail they are familiar with, but they would use the same name for any other kind.

96. AMERICAN COOT. *Fulica americana*. **A'-tchi-ga-deg'**, legs hanging down behind.

97. SANDHILL CRANE. *Grus canadensis*. **A-gi-gak'**. Name.

98. WHOOPING CRANE. *Grus americana*. **Wab'-a-gi-gak'**, white Crane.

99. SWAN, both species. **Wa'-bi-si**, white bird.

100. The name **Ma'-na-bi'-si**, they say they give to a small kind of Swan that is not an uncommon visitor to this country. I am unable to identify the bird, but suspect it is the Snow Goose.

101. CANADA GOOSE. *Bernicla canadensis*. **Ni-ka'**. Name.

102. BRANT. *Bernicla brenta*. **We'-we'** (with strong nasal sound and emphasis to each syllable). Imitation of the bird's 'honk.'

103. WHITE-FRONTED GOOSE. *Anser albifrons gambeli*. **A-pish'-ni-ka'**, like a Goose. This is the only bird that is at all like the description they give of this species. Still I am not perfectly sure of the identification.

104. MALLARD. *Anas boschas*. **I-ni'-ni-shib'**, man Duck. *Shib* is the ending meaning Duck. The female Mallard they call **Wab'-i-ni-ni-shib'**, white Mallard.

105. BLACK MALLARD. *Anas obscura*. **Muk-ud-e'-shib**, black Duck.

106. PINTAIL. *Dafila acuta*. **Kin-o-gua'-ya-we-shib**, long-necked Duck.

107. SHOVELLER. *Spatula clypeata*. **Ma-da-i-ga'-ni-shib**, shovelling Duck.

108. BLUE-WINGED TEAL. *Querquedula discors*. **We-wi'-bing-guang-ge'**, making a noise while fluttering its wings.

109. GREEN-WINGED TEAL. *Nettion carolinensis*. **Sug-gu-ta'-ka-ni-shib**. Spunk Duck. Can find no reason for giving this name. It is also called 'Big Teal.'

110. WOOD DUCK. *Aix sponsa*. **Si-a-mo'**. Name.
111. SCAUP DUCKS (both *Fulix marila* and *F. affinis*). **Ma'-ni-do-shib'**, spirit Duck.
112. RING-BILLED BLACKHEAD. *Fulix collaris*. **Tu-gua'-go-shib**, fall Duck.
113. REDHEAD. *Aythya americana*. **Kitch'-i-tu-gua'-go-shib**, big fall Duck. The Indians call the Canvasback by the same name. They did not distinguish between the two species until white hunters taught them the difference.
114. AMERICAN GOLDEN-EYE *Clangula glaucium americana*. **Mud-we-ang'-ge-shib**, wings making a whistling. Another name for the same Duck is *Pi-kwa'-ko-shib*, arrow Duck.
115. BUTTERBALL. *Clangula albeola*. **Wa-ke'-i-a'-wi-shib'**, shot eater, because it is so hard to hit.
116. SHELDRAKES, in general, **An'-zig**, from an herb, growing at the bottom of lakes, on which it feeds.
117. AMERICAN SHELDRAKE. *Mergus merganser americanus*. **Kitch-i-an'-zig**, big Sheldrake.
118. RED-BREASTED SHELDRAKE. *Mergus serrator*. **O-ga-wan'-zig**, yellow Sheldrake.
119. HOODED SHELDRAKE. *Lophodytes cucullatus*. **Gi-ni-ko-ne'-shib**, sharp-billed Duck.
120. A Duck, not identified, is called **A-mik'-o-shib**, Beaver Duck.
121. PELICAN, both species. **She'-de**. Name.
122. DOUBLE-CRESTED CORMORANT. *Phalacrocorax dilophus*. **Ka-gog'-i-shib**, Raven Duck.
123. For all the Gulls and Terns, they have but one name, **Kai-osk'**, intended as an imitation of their cry.
124. HORNED GREBE (*Dytes auritus*), or Eared Grebe (*D. nigricollis*), or both. **Kitch'-i-shin'-gi-bis**, big diver.
125. LOON. *Colymbus torquatus*. **Mang**, brave. This is almost the only word of one syllable in the Chippewa language. In English, to call a person a loon is not very complimentary, but the Indians use loon-hearted just as we do lion-hearted, to denote extreme bravery. In the fall, when the colors get dull, the name **A'-shi-mang** is given, meaning false Loon.
126. THICK-BILLED GREBE. *Podilymbus podiceps*. **Shin'-gi-bis**, deformed.

We may close these notes by giving one of the Indian stories by which they account for this name as applied to the Grebes.

Once on a time the Great Spirit looked down on all the beasts and birds and saw that their lives were one dull round of monotonous toil. So he told them to assemble at a certain place and he would teach them many beautiful games. He built an immense wigwam, and at the appointed time all were there except the Grebe. He made fun of the whole matter, and said he knew tricks enough already. While the Great Spirit was instructing the assemblage, the Grebe danced in derision before the door,

and finally, emboldened by the forbearance of his master, ran into the room, and by dancing on the fire, put it out and filled the wigwam with smoke. Then the patience of the Great Spirit could stand it no longer, and giving the Grebe a kick, he exclaimed, "Deformed shalt thou go through this world for the rest of thy days!" The imperial foot struck him just at the base of the tail. It knocked the body forward, but the legs remained behind, and the Grebe has ever since had the legs set so far back on the body that it cannot walk.

ON A NEW GULL FROM ALASKA.

BY H. W. HENSHAW.

IN a series of Gulls collected by Mr. E. W. Nelson in Alaska I find a specimen which differs decidedly not only from any other taken by that gentleman but from any in the National Museum collection. Believing it to be new I name and describe it as follows:—

Larus nelsoni, sp. nov.

♂, *adult, breeding plumage* (No. 97253, Coll. Nat. Mus., St. Michael's, Alaska, June 20, 1880. E. W. Nelson, collector): Bill robust, relatively, short; upper mandible slightly convex; lower mandible with moderate angle. First primary longest. Tarsus a little shorter than middle toe and claw. Head, neck, tail, and entire under parts snowy white; mantle pale pearl-blue, lighter than in *glaucescens*, about as in *leucopterus* and *kumlieni*. Primaries: on the *first*, the inner web (except along the shaft) and tip (for three inches) is pure white; outer web, dark slate-gray, except at tip, the slate extending slightly farther in an acute angle to shaft on this than on the inner web. Inner web along the shaft, a lighter shade of the same, fading into white on both webs as the base is approached. The *second* has the slate almost wholly confined to the outer web, upon which it begins two inches from the tip, where it intrudes upon the inner web in the shape of a small spot, and extends upwards along the shaft for 2.25 inches, then makes an acute angle with the shaft and extends 1.50 inches farther on outer margin. On the *third* the slate extends from about 4 inches from the tip nearly to the end, slightly washing the inner web at its extremity. On the *fourth* the slate is paler, and begins on the outer web about one inch from the tip and reaches an inch, then makes an acute angle with the shaft and extends rather more than



Cooke, Wells W. 1884. "Bird Nomenclature of the Chippewa Indians." *The Auk* 1, 242–250. <https://doi.org/10.2307/4066840>.

View This Item Online: <https://www.biodiversitylibrary.org/item/87797>

DOI: <https://doi.org/10.2307/4066840>

Permalink: <https://www.biodiversitylibrary.org/partpdf/87758>

Holding Institution

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Sponsored by

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.