

10 whole corixids *Arctocorixa sutilus* Uhl, and fragments of at least 50 other corixids, 30%.

Downy young. 130 Mile Lake, June 26, 1941, bones of small unidentified fishes, probably *Richardsonius balteatus*, 75%; fragments of dragonfly nymphs, 5%; vegetable debris, 20%.

All the adult stomachs contained gravel; in one specimen were 14 pieces up to 18 mm. in length.

Okanagan Landing
British Columbia

DISTRIBUTION AND TAXONOMY OF THE BLACK-CAPPED CHICKADEES OF NORTH AMERICA

BY ALLEN J. DUVALL

DURING the course of identifying specimens that have recently come to the Biological Survey collection, I have been impressed, as have some previous investigators, by the similarity of Black-capped Chickadees from eastern Washington to those of the eastern United States. Apparently much has been written on this supposed 'colony' or 'island' of eastern-type Black-capped Chickadees, which, according to Ridgway (1904: 398), are inseparable from *atricapillus*. After intensive study of a large number of specimens, taken at all seasons of the year, the writer feels that, although these birds appear much like the eastern population, they are readily separable when compared with specimens in comparable plumage. Further discussion of these birds will be taken up later.

In the course of this study, over 800 specimens were available, including the type series and the types of both *practicus* and *turneri*, as well as three cotypes of *occidentalis*; the other three specimens of *occidentalis* listed by Baird (U. S. National Museum Nos. 6768, 4538, and 9219) were sent to other individuals or museums. In addition, the writer also had available the type series (excluding the types) of *nevadensis*, *anamesus*, *aldrichi*, and most of *bartletti*; also the type of *albescens* was examined.

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Brooks, Dr. Paul Bartsch, Stanley G. Jewett, and Dr. Harry C. Oberholser, for the loan of specimens from their private collections. Thanks are also given to Dr. Herbert Friedmann, Dr. John W. Aldrich, and Dr. Harry C. Oberholser, for helpful comments during this study. The writer also wishes to thank W. E. C. Todd and Arthur C. Twomey for comparing specimens from west-central Canada with the type series of *anamesus* in the Carnegie Museum.

Linnaeus (1766) described the chickadee, *Parus atricapillus*, based on *Parus canadensis atricapillus* of Brisson (1760), who merely gave Canada as the locality whence the species came. Almost a century later (1843), Edmond Selys-Longchamps described *Parus frigidus* from a specimen reported to have been taken in Iceland, where the species is not known to occur. Harris (1845) named the Long-tailed Chickadee *Parus septentrionalis*, from about 30 miles above the junction of the Yellowstone and Missouri rivers. Brehm (1855) named *Parus melanocephalus* from North America. Spencer F. Baird (1858), by inference, described and named a bird from New Mexico as *Parus albescens*, while in the same work a dark form from the Pacific coast was published as *Parus occidentalis*. Robert Ridgway (1884) named the bird from the extreme northwestern part of its range (coast of Alaska) *Parus atricapillus turneri*, and Dawson and Bowles (1909) suggested the name *fortuitus* for the bird from southeastern Washington, northern Idaho, and central southern British Columbia. Oberholser (1937), on the basis of fine series of birds collected by Thomas D. Burleigh, described the Black-capped Chickadee from the southern Appalachian Mountains as *Penthestes atricapillus praticus*, and Todd (1938) proposed, as new, the bird from the southern James Bay region, calling it *anamesus*. In 1938, also, Linsdale separated the bird from the arid region of northeastern Nevada as *nevadensis*. Aldrich and Nutt (1939) separated the Newfoundland bird from typical *atricapillus* and called it *bartletti*. Finally, Braund and McCullagh (1940) separated the bird from Anticosti Island as *aldrichi*.

The American Ornithologists' Union Committee on Nomenclature, in the Check-List of North American Birds (1886 and 1895), used the generic name *Parus* Linnaeus (1758: 189) for the chickadees of North America; while in the 1910 and 1931 editions of the Check-List, *Penthestes* Reichenbach (1850: pl. 62) was employed. Selys-Longchamps (1884: 51) revived the genus *Poecile* Kaup (1829: 114) for the true chickadees. There have been several other genera proposed for Old World species (Hellmayr, 1911: 45) which have no direct bearing on this discussion. More recently, however, Hellmayr

(1934: 70) grouped all the true chickadees under the genus *Parus*. He stated: "Unless a large number of more or less artificial generic groups, having no other than nominal value, be accepted, the only logical course is to unite all the true chickadees in the genus *Parus*, a procedure that seems to us the lesser evil."

In order to determine what genus to use for the North American Black-capped Chickadees, an examination of specimens of the type species of *Parus* Linnaeus (*Parus major*), *Penthestes* Reichenbach (*Parus lugubris*), and *Poecile* Kaup (*Parus palustris*), was made. This study revealed that all three of the above-named genera are inseparable from one another; none of the characters as given by previous authors are constant or considered as good generic differences. Thus, as *Parus* Linnaeus is the earliest available generic name, it should be used as Hellmayr (*loc. cit.*) has stated. [The current A. O. U. Committee in the Nineteenth Supplement to the Check-List (Auk, 61: 453-454, July, 1944) has adopted this arrangement.—Ed.]

The Old World chickadees (marsh tits, etc.) formerly were considered specifically distinct from the New World chickadees (*atricapillus*). Hartert (1905: 376, footnote) considered the Old World birds conspecific with both the Black-capped and Carolina Chickadees of North America, which procedure has been followed in part by other authors. After comparing a good series of birds from Scandinavia, France, Japan, and Siberia with those from Alaska and the United States, I find that the Old World birds are specifically different from the New World chickadees in having the black throat patch extending only to the ramus, whereas in the North American or New World chickadees the black extends well beyond the ramus; also, in Old World birds, the black of the throat is much overlaid with white tips to the feathers, while in New World examples the white tips are usually restricted to that area where the white and black of the ventral surface meet. The character of the restriction of black to the ramus parallels that of the restriction of yellow in the Western Meadowlark (*Sturnella neglecta*). Inasmuch as *atricapillus* was based on the North American Black-capped Chickadee, no change in name is necessary for the American black-caps.

For a discussion of the specific distinctness of *carolinensis* versus *atricapillus*, the reader is referred to Brewster (1886: 177), Oberholser (1918: 465), Hellmayr (1934: 72, footnote 1), and Jouard (1936: 450).

Following is a discussion of the various races of *Parus atricapillus*.

***Parus atricapillus atricapillus* (Linnaeus), EASTERN BLACK-CAPPED CHICKADEE**

Parus canadensis atricapillus Brisson, Ornith., 3: 553, pl. 29, fig. 1, 1760.

Parus atricapillus Linnaeus, Syst. Nat., ed. 12, 1: 341, 1766.

Parus melanocephalus Brehm, Vogelfang: 242, 1855.

Penthestes atricapillus aldrichi Braund and McCullagh, Wilson Bull., 52 (2): 114, June, 1940.

DESCRIPTION.—Adults (sexes alike): Pileum and hind neck black; back olive gray, becoming buffy on rump; wing and tail slate color, their outer webs edged with pale gray or grayish white; chin and throat black, and feathers posteriorly margined or tipped with white; sides of head and of neck white, the white extending under the eye and forming a narrow stripe running to the bill; under parts white, sides and flanks tinged or washed with buff.

MEASUREMENTS.—Adult male (36 specimens): wing, 60–67.5 (65.1) mm.; tail, 58.5–66 (62.1); total culmen, 8.8–11.2 (10.2). Adult female (31 specimens): wing, 60–67 (63.4); tail, 57–64 (60.5); total culmen, 9.2–10.5 (9.9).

TYPE LOCALITY.—Quebec City, Quebec, Canada.

DISTRIBUTION.—Occurs north to Cape Breton Island, Prince Edward Island, southeastern Quebec, including Natashkwan River and Anticosti Island, southern and central-western Ontario, southern Manitoba, and northern Minnesota; west to northwestern Minnesota (Kittson County), southeastern Nebraska, occasionally (Omaha), and eastern Kansas; south to Kansas, central-eastern Missouri, southeastern Iowa (Burlington), central-western Illinois (casually), southern Indiana, northeast-central (Wayne County) and northeastern (Lake and Ashtabula counties) Ohio, northeastern (Erie County), and north-central (Clinton County) Pennsylvania; and east to southeastern Pennsylvania, New Jersey, New York (Long Island), coast of New England, and southern and northern Nova Scotia.

Wanders south to Washington, D. C., northern Virginia, and Maryland (Laurel and Baltimore regions) in winter.

REMARKS.—The Black-capped Chickadee was described by Linnaeus (1766: 341), and was based on Brisson's (1760: 553) description, with locality given as "in Canada." Oberholser (1937: 219) restricted the type locality to the city of Quebec, Quebec, and shortly thereafter Todd, independent of Oberholser's work, likewise restricted the type locality of this form to Quebec City, in the same paper in which his description of *anamesus* appeared. Although Brisson's type undoubtedly came from the vicinity of Quebec City, as cited by Oberholser and Todd, specimens that the writer has seen from this general region do not express the characters of *atricapillus* as well as do the birds

from farther south in the New England states. This apparently indicates that the birds from the now-accepted type locality of *atricapillus* are verging toward the bird from the southern James Bay region, *anamesus*.

Birds from south-central Pennsylvania (Carlisle) are apparently intermediate between this form and *practicus*, but are nearer the typical race. Some specimens seen from New Jersey and Massachusetts, although showing too much white on the edge of the secondaries and rectrices, show a tendency toward the Newfoundland bird, *frigoris*, in both the dark brown appearance of the upper surface and the deep brown wash on the sides and flanks, but apparently these birds have 'foxed' from age and exposure to light and air. Birds from Nova Scotia do show some slight approach to the Newfoundland race, but are closer to *atricapillus*. Some specimens from Minnesota are somewhat intermediate, toward *septentrionalis*, but are nearer to the typical form. The specimen from Kittson County, in the extreme northwestern part of Minnesota, which is referable to *atricapillus*, represents the northwestern outpost of the range of this subspecies. One specimen in the Gabrielson collection (No. 3539) from the Huron Mountain Club, Upper Peninsula of Michigan, exhibits a considerable amount of white for *atricapillus*, but is too brownish above for *anamesus* and too small for *septentrionalis*.

Two specimens, reportedly from extreme central-western Ontario (Rat Portage and the north shore of Lake Superior, on the Canadian Pacific Railway) are, in appearance and size, *atricapillus*. One specimen in the United States National Museum from Selkirk Settlement, Manitoba, while apparently discolored from age and intermediate in size, has been allocated to this form.

Snyder (1928: 276 and 1938: 199) called breeding birds of this general region *septentrionalis*, but his measurements of worn breeding birds (average of five males: wing, 65.5 mm.; and tail, 66.5 mm.) seem to indicate that they are intermediate in size. Thus it would appear that the Rainey River district, the Lake Nipigon region of central-western Ontario, and the Lake St. Martin region of south-central Manitoba (Shortt and Waller, 1937: 35) is the area of intergradation between *atricapillus*, *anamesus*, and possibly *septentrionalis*.

Braund and McCullagh (1940: 114) described the bird from Anticosti Island on the basis of five worn breeding specimens, but, although the birds in question are slightly darker than *atricapillus*, the difference is insufficient to warrant recognition. No real difference in size was detected that could be used to differentiate these birds.

Perhaps if a good series of fresh autumn or winter specimens were available, it might be possible to differentiate the birds of this island from the birds of the adjacent mainland, but with specimens in such poor condition it is impossible to determine any sufficient difference.

One specimen from eastern Kansas is the eastern bird, while only one specimen of this form has been seen from Nebraska (Omaha). Specimens from Iowa (Burlington), seen by the writer, proved also to be of this race. DuMont (1934: 100) lists this form as breeding in all parts of the State of Iowa except the northwestern part, and two specimens for which he gives measurements (wing, 71.9; tail, 69.6; and wing, 72.6; tail, 66.8), from Woodbury County, appear to be, at least in size, the long-tailed form, *septentrionalis*, instead of *atricapillus*.

Ten specimens, taken in fall and winter, from Wooster, Wayne County, Ohio, are slightly intermediate, but definitely this form, and not the southern Appalachian race, *practicus*, as are the birds from Lake, Cuyahoga, and Ashtabula counties, according to Oberholser (1937: 220).

Brodkorb (1928: 512) recorded this chickadee as a wanderer or migrant in central-western Illinois in November and April (Eagle Township, Jersey County). Neff (1923: 215), in his account of the birds of the Ozark region of Missouri, records *P. a. atricapillus* as "very common," but this record apparently refers to *P. carolinensis*, as the Carolina Chickadee is not listed and it is probably a common bird in that area. Pindar (1925: 168) lists the Black-capped Chickadee from Fulton County, Kentucky, as a "rare winter visitant," but with nothing more substantial than the statement quoted above it is best to consider the species as not occurring there until more definite data are available to substantiate the occurrence of black-caps in Kentucky.

Baerg (1927: 548) states that the Black-capped Chickadee occurs on Mount Magazine, Logan County, Arkansas, but is relatively uncommon. However, he does not list the Carolina Chickadee, *P. carolinensis*, and without doubt the reference to *P. atricapillus* refers to *P. carolinensis*.

Bigelow (1902: 30) records the chickadee from Labrador, but later (1902: 202-206) corrected it as being *P. hudsonicus* [*littoralis*]. Turner (1885: 236) also recorded the black-cap from Labrador, but this record also is probably erroneous, as indicated by Austin (1932: 167).

***Parus atricapillus praticus* (Oberholser)**
APPALACHIAN BLACK-CAPPED CHICKADEE

Penthestes atricapillus praticus Oberholser, Proc. Biol. Soc. Wash., 50: 219-220, 1937.

DESCRIPTION.—Similar to *P. a. atricapillus*, but darker and duller (more grayish); rump, sides, and flanks less buffy; edging of wing and tail less whitish (more grayish) and narrower.

MEASUREMENTS.—Adult male (12 specimens): wing, 61.5–67 (64) mm.; tail, 57–61.5 (59.9); total culmen, 9.3–10.5 (9.7). Adult female (12 specimens): wing, 59.5–65.5 (63); tail, 57–60.5 (59.3); total culmen, 8.9–10.5 (9.8).

TYPE.—Adult male, No. 340642, U. S. National Museum (Biological Survey Collection); Mount Guyot, 6,500 feet, Great Smoky Mountains, North Carolina; April 15, 1932; Thomas D. Burleigh; original number, 1797.

DISTRIBUTION.—Occurs north to southwestern (Somerset County) and central-western Pennsylvania, and the Appalachian Plateau of northeastern Ohio; west to central and south-central Ohio; south in the Appalachian Mountains, through western Maryland, eastern and southwest-central (Charleston) West Virginia, central-western Virginia, western North Carolina, and eastern Tennessee. Occasional in winter to the District of Columbia.

REMARKS.—Although Oberholser identified birds in worn breeding plumage from Somerset, Somerset County, Pennsylvania, as *atricapillus*, the writer has seen numerous birds in fresh plumage which clearly indicate that the birds of this region are the same as birds breeding in western North Carolina. The birds from farther north and east of Somerset County, in west-central Pennsylvania, although somewhat intermediate, also appear to be closer to the southeastern race. Specimens of *practicus* in worn breeding plumage generally are much darker than *atricapillus*, and, although the specimen from Centre County (Port Matilda), Pennsylvania, is from an intermediate locality, it is, in coloration, fairly typical of the southern mountain form, *practicus*, while the bird from Tamarack Swamp, in Clinton County, north-central Pennsylvania, is *atricapillus*.

One winter specimen from Circleville, Ohio (No. 235923, U. S. National Museum, December 6, 1881) is this form, while two others from the same locality, taken one day earlier, are the Carolina Chickadee (*P. carolinensis*). One immature specimen from Columbus, Ohio, collected about 1877 by J. M. Wheaton, has been previously identified as the Carolina Chickadee, but upon close examination it appears to be a race of the Black-capped Chickadee, because of the relatively broad whitish edgings of the secondaries, and a tail-length of 61 mm. At the present time the Black-capped Chickadee rarely occurs at Columbus (Thomas, 1928: 77), and has been supplanted by the Carolina Chickadee.

Two specimens from Athens, in southeastern Ohio, have been most difficult to allocate, as they exhibit some characters of the Black-capped Chickadee and some of the Carolina Chickadee. They have finally been determined to be the latter species, mainly on the basis of the short tail (55–56 mm.). Although specimens have not been seen from Geauga and Portage counties, in northeastern Ohio, according to Oberholser (1937: 220) they are *P. a. praticus*.

Parus atricapillus anamesus (Todd), CANADIAN BLACK-CAPPED CHICKADEE

Penthestes atricapillus anamesus Todd, Auk, 55 (1): 116–117, January, 1938.

DESCRIPTION.—Similar to *P. a. atricapillus* in size, but paler and less buffy above and below; edges of primaries, secondaries, and rectrices with greater extent of white. Similar to *P. a. septentrionalis*, but smaller; upper parts darker, and white of wings and tail not so extensive.

MEASUREMENTS.—Adult male (14 specimens—type series): wing, 63–67 (64.9) mm.; tail, 60–66 (62.6); total culmen, 9.8–11 (10.3). Adult female (12 specimens—type series): wing, 61.5–66.5 (63.4); tail, 58.5–63.5 (61); total culmen, 9–10.4 (9.8).

TYPE.—Adult male, No. 100002, Carnegie Museum; Mattice, northern Ontario; May 21, 1926; W. E. C. Todd.

DISTRIBUTION.—Occurs north to Fort Albany, Ontario, central Manitoba (Eichamanish River), northeast-central Saskatchewan (south end of Reindeer Lake), and northeast-central Alberta (Fort McMurray); west to central-western Alberta and central-eastern British Columbia (Moose Lake); south to central Alberta (S. Edmonton) and central-eastern Ontario (Mattice and Mattagami River); and east to west-central Quebec (Lake Mistassini).

REMARKS.—The birds from James Bay, as indicated by Todd in the original description of *anamesus*, exhibit some of the characters of *P. a. atricapillus* and some of *P. a. septentrionalis*, and, although intermediate, can be separated from the other races of this species. Taverner (1940: 536–541), in his recent discussion of the Black-capped Chickadees in Canada, says that Todd merely split the difference and doubled the difficulty when he named an intermediate, but from this present study it is apparent that *anamesus* can be identified in most instances and does have a considerable distribution across Canada. Taverner, in his study, had no specimens that he considered to be *anamesus*, but assumed that birds from west-central Canada were *septentrionalis* and that those from southeastern Canada were *atricapillus*, and on that basis came to the conclusion that there was such a great overlap that the bulk of the Canadian specimens could not,

with certainty, be identified. Nevertheless, had he used typical examples of *septentrionalis* from northeastern Montana and southward in the United States, he would, I feel sure, have recognized the distinctness of *septentrionalis* from the birds of the northern half of Alberta, Saskatchewan, and Manitoba, and the difference of the west-central Canadian birds from typical *atricapillus*. In an earlier paper, Taverner (1926: 103) gave the tail measurements of three specimens of chickadees from the Belvedere region of Alberta, on the basis of which birds of that region are considered to be the long-tailed form. The measurements, however, are entirely too small for that race and appear to indicate *anamesus*.

Specimens from Fort McMurray, Alberta, when compared with the type series of *anamesus*, are indistinguishable from it in both color and size, while specimens from South Edmonton and western Alberta, north and around Jasper House, are diverging slightly from *anamesus*, but are definitely that form and not *septentrionalis* of northeastern Montana. Specimens from Alberta, however, have on the average slightly longer tails than typical *anamesus*. Two freshly molted specimens from Moose Lake, British Columbia, are darker than *anamesus*, but definitely are not *fortuitus* of eastern Washington, and are too small and dark for *septentrionalis*. The above-mentioned birds heretofore have been identified as *septentrionalis*, but when compared with typical *septentrionalis* the differences are at once apparent.

Insufficient material has been seen from central and northern British Columbia to determine properly the race or races occurring there, for the only available material was one badly worn and mutilated specimen from the central part of the province (Stuart Lake), and several badly worn birds from the northern part of the province (Atlin). It may be that additional specimens will prove these birds to be separable as a new race, as intimated by Swarth (1922: 297).

Several specimens from northern Michigan show a trend toward *anamesus*, but they are closer to *atricapillus*, while specimens from southeastern Ontario likewise show some trend toward *anamesus*. The specimen from Lake Mistassini in west-central Quebec referred to by Macoun (1885: 34-D) has been allocated to this form on geographic grounds.

***Parus atricapillus frigidus* Selys-Longchamps
NEWFOUNDLAND BLACK-CAPPED CHICKADEE**

Parus frigidus Selys-Longchamps, Bull. Acad. Roy. Sci. Bruxelles, 10 (7): 27, July, 1843.

Penthestes atricapillus bartletti Aldrich and Nutt, Sci. Publ., Cleve. Mus. Nat. Hist., 4 (2): 13-14, 1939. (Type: adult male, No. 38031, Cleve. Mus. Nat. Hist.;

Makinson's Grove, Avalon Peninsula, southeastern Newfoundland; September 6, 1938; R. Hellman and D. C. Nutt; original number, 293.)

DESCRIPTION.—Similar to *P. a. atricapillus*, but upper parts, sides, and flanks decidedly darker and browner. Similar to *P. a. occidentalis*, of the Pacific Coast, but larger and not so dark.

MEASUREMENTS.—Adult male (7 specimens): wing, 65–68 (66.4) mm.; tail, 59–64 (62.4); total culmen, 10.5–11.2 (10.7). Adult female (6 specimens): wing, 61–64.5 (62.3); tail, 57.8–61.5 (60); total culmen, 10.2–11 (10.7).

TYPE LOCALITY.—St. John's, Newfoundland.

DISTRIBUTION.—Known only from Newfoundland and recorded from the following localities: Avalon Peninsula (Aldrich and Nutt, 1939: 13–14); St. John's (Brooks, 1936: 344, and Palmer, 1890: 265); Great Rattling Brook (Rooke, 1935: 871); Harry's River (Oberholser, 1914: 43); Bard Harbor (Griscom, 1926: 682); Nicholsville, Port au Port, Lewis Hills, and Spruce Brook (Noble, 1919: 564), and recorded on August 14, 1833, from St. George's Bay, by Audubon; also from Stephenville, on June 9, 1911, and Bay of Islands, on June 3, 1911 (Beers, *In Migration Reports to Bureau of Biological Survey*—now Fish and Wildlife Service).

REMARKS.—Selys-Longchamps (1843: 27) named and described a chickadee which he believed to be from Iceland. At a later date (1884: 54) he corrected the locality to "États-Unis" [United States], and considered the bird in question to be a form of *atricapillus*, race *septentrionalis*, because of the "long tail," notwithstanding the fact that the color characters were totally different and unlike those ascribed to *septentrionalis*. Fraipont (1910: 5, 65) reiterates Selys-Longchamps's corrected locality for the type, as from the United States of America. Hellmayr (1903: 56) likewise tentatively placed *frigoris* under *septentrionalis*.

A. J. van Rossem, who visited Brussels in July, 1939, was given access to the Selys-Longchamps collection, at which time he made critical notes on the type of *Parus frigoris*. As a result of this careful study, van Rossem (1942: 312–313) has concluded that the type of *frigoris* is typical of the birds inhabiting Newfoundland, both as to size and color. Thus, as van Rossem suggests (*loc. cit.*), *Parus frigoris* Selys-Longchamps replaces *P. a. bartletti* Aldrich and Nutt, who were the first since Selys-Longchamps to point out the distinctness of the Newfoundland bird. Because the French scientific expedition which obtained the type of *frigoris* probably visited the port of St. John's, and because *frigoris* reaches its greatest differentiation in southeastern

Newfoundland, the type locality is restricted to St. John's, Avalon Peninsula, Newfoundland.

Parus atricapillus septentrionalis HARRIS, LONG-TAILED CHICKADEE

Parus septentrionalis Harris, Proc. Acad. Nat. Sci. Phila., 2 (12): 300, November-December, 1845 [after February 18, 1846].

Parus albescens Baird, Rep. Expl. and Surv., Pac. R. R., 9: xxxvii, 1858 (Rocky Mts.; nomen nudum, characters given without name on page 389 in text).

DESCRIPTION.—Similar to *P. a. atricapillus*, but wing and tail decidedly longer; upper and lower parts lighter; edges of primaries and tail feathers much more purely white and more extensive. Similar to *P. a. anamesus*, but larger and paler.

MEASUREMENTS.—Adult male (62 specimens): wing, 64.5–73 (68.7) mm.; tail, 63–72.5 (67.4); total culmen, 9.6–11.4 (10.5). Adult female (30 specimens): wing, 64–71 (67.2); tail, 64–71 (64.2); total culmen, 9.6–11.2 (10.5).

TYPE.—Immature, No. 29792, Acad. Nat. Sci. Phila.; Yellowstone River, about 30 miles "below" [= above] its junction with the Missouri River in northeastern Montana; July 26, 1843; Edward Harris.

DISTRIBUTION.—Occurs *north* to central-northern North Dakota and northern Montana; *west* to west-central Montana, eastern Idaho (Lemhi), western Wyoming (except extreme southwestern part of the State), southwestern Colorado, and northwestern New Mexico; *south* to north-central New Mexico, central-southern Kansas, and northeast-central Oklahoma (casually); and *east* to southeastern Kansas, central-western Missouri (Independence, No. 7531, U. S. National Museum, May–June, 1857, J. G. Cooper), eastern Nebraska, west-central Iowa (DuMont, 1934: 101–102), eastern South Dakota, and eastern North Dakota. In winter, wanders occasionally to central Idaho.

REMARKS.—Birds from Gallatin County, southwestern Montana, are different from almost all other specimens of *septentrionalis* that the writer has seen, being much buffier both above and below, and darker than topotypical examples of *septentrionalis*. Birds from farther south, at Teton Pass (Fish Creek), in central-western Wyoming, show the other extreme and are typical of this race. One specimen in fresh plumage, from Lemhi, Idaho, is apparently this race; it certainly is not *nevadensis* or the central Washington bird, *fortuitus*.

Baird (1858: xxxvii) included in his table of contents the name *Parus albescens*, and on page 389 characterized U. S. National Museum specimen No. 6776, but failed to give it a name, thereby making *albescens*, as listed in the table of contents, a nomen nudum, which was so indicated by Ridgway (1904: 401). The above name, *albescens*,

by inference and number given, refers to a flat skin in very poor condition, very buffy both above and below, which may be due to 'foxing.' Although taken in New Mexico, it is very different from practically every other specimen with the exception of one from Pecos, New Mexico, and several fresh-plumaged birds from Colorado. Apparently the above-mentioned birds are merely variants of *septentrionalis*. Specimens from Willis, New Mexico, taken during the breeding season, are somewhat darker than *septentrionalis*, and thus show a trend away from that race, as well as away from *nevadensis*. In addition, other specimens from New Mexico show a departure from the long-tailed form in their smaller size.

The specimen (No. 186868, U. S. National Museum, Biological Survey Collection) listed by Mrs. Bailey (1928: 506) as *P. a. septentrionalis*, from the Capitan Mountains, in south-central New Mexico, proves to be a worn specimen of *P. gambeli* rather than of this species. It is interesting to note that Mrs. Bailey did mention the fact that the specimen in question was from considerably south of the normal range of this form which therefore must be rare or accidental at that place.

Specimens in fresh plumage from Colorado are similar to the birds from Gallatin County, Montana, in having a buffy wash to the upper parts, thus averaging more buffy than typical *septentrionalis*, and, at the same time, are different from specimens from southern Idaho and Nevada.

A specimen (No. 31282, Cleveland Museum of Natural History) from near the mouth of Camas Creek, Mud Lake, Jefferson County, Idaho, is a typical example of this race, being too buffy (less grayish) and too dark for *nevadensis*, and is apparently a wanderer of *septentrionalis*.

Mrs. Nice (1931: 131) records a specimen of this race from Tulsa, Oklahoma, as well as several sight records from that State.

In every case but one, birds from Nebraska have been allocated to this race, although some specimens do show, in color, some approach to *atricapillus*, while in the amount of white in the wing and tail, and in size, they are *septentrionalis*. One specimen in particular, from Valentine, Nebraska, in the central-northern part of that state, is like *atricapillus* in coloration, but the white edges of the wing feathers are too extensive for the eastern bird. Also, while wing and tail measure only 65 mm., the specimen is much worn and abraded, with several tail feathers missing; the wing and tail no doubt would have been considerably longer in good plumage. Another specimen from

the same locality is ultra-typical, both in size and color, being pale grayish buff on the upper surface and showing much white on the edges of wing and tail; the wing measures 73 mm. and the tail, 72.5 mm. Oberholser has identified the first-mentioned (Valentine) specimen as *atricapillus*, but because of the facts as given above the intermediate specimen has been called *P. a. septentrionalis*.

Parus atricapillus nevadensis (Linsdale), PALLID BLACK-CAPPED CHICKADEE

Penthestes atricapillus nevadensis Linsdale, Condor, 11 (1): 36-38, January, 1938.

DESCRIPTION.—Similar to *P. a. atricapillus*, but larger and paler, more grayish (less brownish), and white edgings more extensive. Similar to *P. a. septentrionalis*, but more grayish, both above and below.

MEASUREMENTS.—Adult male (22 specimens): wing, 64-72.2 (68) mm.; tail, 64-71.6 (67.5); total culmen, 9.6-11 (10.2). Adult female (13 specimens): wing, 63.5-70.5 (66.9); tail, 63.5-70.5 (67); total culmen, 9.7-10.8 (10.1).

TYPE.—Adult male, No. 65920, Museum of Vertebrate Zoology; Salmon River at Shoshone Creek, 5,000 feet, Elko County, Nevada; September 16, 1934; J. M. Linsdale.

DISTRIBUTION.—Occurs *north* to southern and central-eastern Idaho; *west* to northeastern Nevada; *south* to north-central Utah; and *east* to extreme southwestern Wyoming. Wanders in migration to Zion Canyon in southwestern Utah (Presnall, 1936: 217) and central-northern Arizona (Weatherill, 1937: 86).

REMARKS.—This race is one of the palest of the known races of the species, inhabiting the Great Basin area, and in certain plumages is very close to the Alaskan race, *turneri*.

Specimens collected by Dr. Clarence Cottam in the Raft River Mountains, in northwestern Utah, are this form, as are also specimens from Salt Lake City, Provo, and Laketown, Utah. Two old specimens from Green River, in eastern Utah, are very brown and certainly do not appear to be this race, but since birds both from north and west are of this race, and inasmuch as these Green River specimens probably have 'foxed' with age and exposure to light and air, they are hereby placed with *nevadensis*. Birds from southwestern Wyoming (Fort Bridger, Green River, and Mountain View) are all *nevadensis* and, together with the specimens from northeastern Utah (Laketown) and eastern Idaho, represent the eastern part of its range.

Parus atricapillus fortuitus (Dawson and Bowles),

COLUMBIAN BLACK-CAPPED CHICKADEE

Penthestes atricapillus fortuitus Dawson and Bowles, Birds of Washington, 1: 273-274, 1909.

DESCRIPTION.—Similar to *P. a. atricapillus*, but paler and more buffy both above and below; white edgings of wing and tail more conspicuous. Similar to *P. a. nevadensis* and *P. a. septentrionalis*, but smaller and darker; white edgings much reduced. Larger and not as dark brown, both above and below, as *P. a. occidentalis*. Paler and more buffy than *P. a. anamesus*.

MEASUREMENTS.—Adult male (27 specimens): wing, 60–67 (64.1) mm.; tail, 57.5–65 (62.1); total culmen, 9.1–10.8 (9.8) Adult female (23 specimens): wing, 59–67 (63.2); tail, 57–65 (61.4); total culmen, 9.1–10.5 (9.8).

TYPE LOCALITY.—Walla Walla, Washington.

DISTRIBUTION.—Occurs *north* to extreme northwestern Montana (Waterton Lake), northern Idaho, southeastern and central-southern British Columbia (Okanagan Valley); *west* to west-central (east of Cascades) and south-central Washington, and east-central Oregon; *south* to southeast-central Oregon and central Idaho; and *east* to extreme central-western Montana (Corvallis).

REMARKS.—Many ornithologists have discussed the birds from the general region of eastern Washington and Oregon, western Idaho, and southern British Columbia, but apparently none have felt that they possessed sufficiently different characters to warrant naming. Birds inhabiting this region, however, are distinct enough to be recognized, and Dawson and Bowles (1909: 273–274), referring to the birds from this particular region, suggested that if they are recognizable they should be called *fortuitus*, and gave both the range and characters for this ‘colony’ or ‘island’ of chickadees. They characterized the birds, saying that they “are notably larger and brighter than *P. a. occidentalis*.” Thus it is apparent that the name *fortuitus* is a valid one and must be used for the present race.

Brewster (1882: 228) appears to have been the first to discover and point out that these birds are unlike their nearest relatives, *occidentalis* and *septentrionalis*, and most like the eastern race, *atricapillus*. The specimens upon which he based his findings were from a large collection of birds sent to him for study and comment by Captain Charles E. Bendire, from the immediate vicinity of Fort Walla Walla, in southeastern Washington. Dawson and Bowles (1909: 274) gave the range of this form by merely quoting from Ridgway (1904: 398), who first listed Walla Walla as one of the places of occurrence. The Walla Walla specimens in the U. S. National Museum, which were examined at that time by Mr. Ridgway, were perhaps some of the same lot of specimens which Bendire had originally sent to Brew-

ster. Therefore, the type locality of *fortuitus* is restricted to Walla Walla, in southeastern Washington. It is interesting to note that Ridgway, when preparing the measurements for the Black-capped Chickadee in his *Birds of North and Middle America*, had placed, at the heading of the sheet containing the measurements of the twelve specimens considered to represent an isolated colony of eastern-type birds, a new name. Apparently he changed his mind afterward, for in his publication he grouped these birds under typical *atricapillus*, and the new name was never published. Later, George G. Cantwell collected a Black-capped Chickadee in the willows at Yakima, Washington, on March 15, 1921, and he, too, noted a difference in the population of chickadees from east of the Cascades, for, in his unpublished field notes in the files of the Fish and Wildlife Service, he states: "Specimens from this locality [Yakima] are too light colored to be typical *occidentalis*, and not large or bright enough to be classed as *septentrionalis*. A good series of birds from this arid east side would probably show some interesting features."

Birds from southeast-central Oregon, in the Steens Mountains and vicinity, and Camp Harney are somewhat intermediate and show a tendency toward *nevadensis*, but apparently are closer to *fortuitus*. Some birds from central-eastern and northeastern Oregon likewise exhibit variable characters, and show a tendency toward both *nevadensis* and *septentrionalis*. Some specimens from northeastern Washington appear almost identical to birds from the humid Pacific coast region, being very brown both above and below, yet they are too large for *occidentalis*. Apparently this is an indication of an approach toward *occidentalis*. However, populations in this region are completely cut off from the coast birds by areas inhabited by typical *fortuitus*, and since other specimens from the same localities are typical *fortuitus*, the tendency of the above-mentioned examples toward more brownish coloration seems best explained as a local variation of the interior race.

Specimens from Sicamous, in south-central British Columbia, while not as dark nor as brown as birds from the coast, do show a tendency in that direction, as do also some specimens from Loomis and Molson in central-northern Washington, but all are typical in size of the east Washington birds and are thus placed with that form.

Birds from west of Sicamous, at Ashcroft, British Columbia, are typical *fortuitus*. Specimens from central-western and northern Idaho (Payette, Idaho City, and Fort Sherman) are all *fortuitus*, while the form breeding in southwestern and central Idaho (Wood River and

Ketchum) is undetermined, inasmuch as no specimens have been examined from these regions. They may prove to be this form or *nevadensis*. Examples from Benton County, Washington, are typical *fortuitus* and thus represent the extreme southwestern portion of its range in Washington.

One specimen from Waterton Lake, northwestern Montana, and one from Corvallis, in central-western Montana, are this form. Saunders (1921: 160) referred birds from this general region to *atricapillus*, as well as a specimen taken at Bozeman, in southwestern Montana, which he considered a wanderer or migrant (1911: 48). In a letter from A. A. Saunders to Mrs. Florence Merriam Bailey, dated December 16, 1918, in relation to chickadees of Glacier National Park, he stated: "Those west of divide probably *atricapillus*, and east *septentrionalis*, as in other places near the Park."

***Parus atricapillus occidentalis* Baird, OREGON CHICKADEE**

Parus occidentalis Baird, Rep. Expl. and Surv. R. R. Pac., 9: xxxvii, 388, 391, 1858.

DESCRIPTION.—The darkest and brownest of all North American races of chickadee, differing so radically from most of the known races that no comparison is necessary, with the exception of the Newfoundland bird, *frigoris*. Differs from *frigoris* in being slightly darker, both above and below, and with the tail decidedly smaller.

MEASUREMENTS.—Adult male (41 specimens): wing, 57.5–64 (61.2) mm.; tail, 53.5–60.5 (57.1); total culmen, 9.5–10.9 (10.2). Adult female (35 specimens): wing, 57.5–63.5 (60); tail, 53–59.5 (56); total culmen, 10–10.8 (10.3).

TYPE LOCALITY.—Shoalwater Bay, southwestern Washington. Designated by American Ornithologists' Union (1931: 229).

DISTRIBUTION.—Occurs *north* to extreme southwestern British Columbia and the Pacific coast of Washington and Oregon, west of the Cascade Mountains; *south* to northwestern California (casually); and *east* in Washington up the Columbia River to Roosevelt, and south through west-central Oregon to Jackson County, and central-northern California (casually).

REMARKS.—A specimen from Roosevelt on the Columbia River, in central-southern Washington, is typical of the coast bird, and apparently shows an infiltration of this race into the interior lowlands up the Columbia River. A little farther west and north of Roosevelt, birds from Benton County (Prosser) are representative of *fortuitus*, thus indicating the limits between these two races in central-southern Washington. Birds from Warm Springs, in north-central Oregon, are intermediate but apparently are closer to the coast race, and show

a movement from the Columbia River south and east of the Cascades. Several specimens from Ashland, Jackson County, in southwestern Oregon, resemble *fortuitus*. Examples from localities entirely surrounding this area are typical *occidentalis*. Thus the Ashland birds are considered as variants of the coastal race. The several specimens reported as seen and collected in California have not been examined by the writer, but apparently, on geographic grounds, they should be referable to *occidentalis*. These California records are from: Eureka, seen, March 26; 1 male taken, March 31, 1920, and another on October 23, 1924 (Davis, 1924: 105; 1940: 222); and Scott River, 6 miles northwest of Callahan: 4 specimens (2 juveniles) in the collection of the Museum of Vertebrate Zoology, Berkeley, California, taken June 10 and 13, 1911 (Grinnell, 1915: 163). In addition, Baird, in his original description of *occidentalis*, listed specimen No. 9219, from California, which was sent by him to H. K. Coale, November 24, 1884. This was from the Gould collection, collected by D. Douglas, and may or may not have been collected in what is now known as California. Gadow (1883: 46) also lists a specimen from California as received from John Gould. Specimen No. 6768, from Shoalwater Bay, Washington (cotype), was sent to P. L. Sclater, in England, and No. 4538, from Washington Territory (another cotype), was sent to G. N. Lawrence, both in 1859.

Parus atricapillus turneri Ridgway, YUKON CHICKADEE

Parus atricapillus turneri Ridgway, Proc. Biol. Soc. Wash., 11: 89, April 10, 1884.

DESCRIPTION.—Similar to and almost indistinguishable in color from *P. a. nevadensis*, though smaller and more purely grayish (practically no buffy wash). Similar to *P. a. septentrionalis*, but averaging smaller and grayer.

MEASUREMENTS.—Adult male (20 specimens): wing, 61–68 (65.4) mm.; tail, 62–70.5 (65.7); total culmen, 9.2–10.5 (9.9). Adult female (15 specimens): wing, 61–66.5 (63.6); tail, 61–66 (63.7); total culmen, 9.5–10.7 (10).

TYPE.—Adult male, No. 70826, U. S. National Museum; St. Michael's [St. Michael], Alaska; May 1, 1876; L. M. Turner, original number, 1091.

DISTRIBUTION.—The coast of Alaska north to St. Michael; west to the Aleutian Islands (Shumagins, etc.), Kodiak Island; south to southeastern Alaska (Haines), northern British Columbia (Atlin), southern Yukon, and central-southern Mackenzie; and east to Great Bear Lake in west-central Mackenzie (Preble, 1908: 485–487). In migration, to Nunivak Island, central-western Alaska (Swarth, 1934: 42); accidental in winter in northwestern Alaska (Hunt River).

REMARKS.—This race and *P. a. nevadensis* exceed in pallor all other known races of chickadee in North America, and show an interesting parallel development, as do also *fortuitus* and *atricapillus*. Both the Alaskan race and *nevadensis* are widely separated from each other, yet in certain plumages are very difficult to separate.

Although tentatively placed under this form, specimens from southern Mackenzie are intermediate between *turneri* of Alaska and *anamesus* of central Canada, and thus appear like *septentrionalis* in color, while exhibiting a very variable size, from quite small to very large. Two immature specimens from central-southern Yukon, near the British Columbia border, also have been placed tentatively with this race, even though these immature birds are noticeably lighter and browner than specimens of *turneri* from Kodiak Island, Alaska, which makes them look like specimens of *septentrionalis*. An adult male from the same region has likewise been placed under this form because it is too badly worn and abraded for certain subspecific identification.

Worn breeding examples from Haines, Alaska, and Atlin, British Columbia, also are unidentifiable, and the writer feels that the true status of the chickadees inhabiting Yukon, the northern half of British Columbia, Mackenzie, and southeastern Alaska, has not yet been satisfactorily determined, due to the lack of sufficient material. They may represent an undescribed race, as previously mentioned under *P. a. anamesus*.

Grinnell (1900: 59) secured two specimens on October 26, 1898, from the Kotzebue Sound region (Hunt River), Alaska, one of which was seized by a shrike while on a willow branch. The other specimen was identified by Robert Ridgway, who stated that it agreed in coloration with typical examples of *septentrionalis*, and that it was not referable to *P. a. turneri* of the Alaska coast. Nevertheless, Ridgway (1904: 402) placed the above-mentioned record under *turneri* in the synonymy of that race. It may be that Mr. Ridgway had forgotten about identifying the Hunt River skin for Grinnell, and allocated it on purely geographic grounds, for birds from east of there in east-central Alaska are *turneri*. It thus would seem that the bird in question is simply a variant of *turneri* and is so considered.

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