

identifiable. During the first three days the food consisted of Geometrid larvæ and leaf-hoppers, while the grasshoppers, crickets and ants were brought during the last two days.

It will thus be seen that with these three species of birds the preference of food for the young seems to be Geometrid larvæ. This may be partly due to the greater abundance of this food material as well as to the fact that these larvæ are about the right size for feeding birds the size of these, and that they are easily prepared for the young. One would expect the wrens to make use of smaller insects than the sparrows, and the large number of leaf-hoppers fed by them bears this out.

There was no evidence that any of these birds fed by regurgitation. In the case of the sparrows this was clearly proved, but what might have happened in the case of the wrens can only be surmised. At any rate, the food was uniformly brought dangling from the bill and was not swallowed before being delivered to the nestlings. This was the case with the very first feedings of both Song Sparrows and House Wrens.

Intensive studies of this sort are needed for all of our birds. It is not an exhausting sort of work, and pays large returns for the effort and time spent. Generalizations are in order only after a considerable number of nests of each species are studied, the nests under as different conditions of environment as possible. As one's experience in this work increases accuracy of observation increases.

PRELIMINARY LIST OF THE BIRDS OF NORTHERN PASSAIC COUNTY, NEW JERSEY.

BY LOUIS S. KOHLER, BLOOMFIELD, N. J.

In preparing the following list of birds, which the author has observed in Upper Passaic County, New Jersey, during the past ten years, all of the species have been included to which may be attached no doubt as to their identification or authenticity of record. The territory covered in these obser-

vations includes the whole of the townships of West Milford and Pompton. The country consists mostly of low rolling hills, heavily wooded, intersected by broad valleys, in whose precincts are located the farming districts of the section. Dotted here and there are many small ponds and lakes, the principal of which are Echo Lake, Mud Pond, Pompton Lake and the lower half of Greenwood Lake. Most of the ponds and lakes are connected by small streams and rivers, forming a network over the whole of the district canvassed. In the western half are located the Bearfort Mountains, the highest in the section. These range from 600 to 1,400 feet in elevation and are heavily wooded with an original growth which covers more than three-quarters of their slopes. At the southern end of this range is located the Kanouse Mountain, another heavily wooded hill, but much lower in elevation. Along the southern border the Pequannock River meanders nearly the whole length of the section and separates these townships from Morris County, their southern neighbor.

But little has ever been written or published regarding the ornithology of this section, and it has been the object of the writer to gather together an authentic as well as a complete record of each and every species present, together with notes on those which breed and rear their progeny with us each year.

(1) *Colymbus auritus*—Horned Grebe. A regular spring and fall migrant. May be resident on the northern lakes during the summer months. Spring dates: April 14, 1906 (Pompton Lake); April 23, 1910 (Echo Lake), and April 14, 1911 (Greenwood Lake); April 13, 1912 (Pompton Lake), and April 14, 1913 (Pompton Lake). Fall dates: October 2, 1911 (Echo Lake), and September 29, 1912 (Pompton Lake). Summer date: August 10, 1912 (Greenwood Lake).

(2) *Podilymbus podiceps*—Pied-billed Grebe. A regular spring and autumn migrant. Occasional summer resident. Spring dates: April 10, 1911, and April 18, 1912 (Pompton Lake). Autumnal dates: September 19, 1910 (Pompton Lake); October 8, 1911 (Echo Lake); September 15 and 30, 1912 (Pompton Lake). At Mud Pond on August 17, 1912, thirteen of these birds were observed feeding among the lily pads near the southern shore.

(3) *Gavia immer*—Loon. A rare visitant. A male of this species was observed at Pompton Lake on April 14, 1912, diving and swimming about near the northern end. Only record for the section.

(4) *Larus argentatus*—Herring Gull. A common spring migrant. Rare in autumn and occasional during winter. Numerous spring dates at all of the lakes. Observed but twice during autumn: September 30, 1906, and October 2, 1911. Seen on December 18 and 28, 1912, over Pompton Lake.

(5) *Mergus americanus*—Merganser. Occasional winter and spring visitant. Observed on February 18, 1911 (Wanaque River); March 31, 1912 (Pequannock River), and January 5, 1913 (Echo Lake).

(6) *Anas platyrhynchos*—Mallard. An irregular visitor. Found nesting at Echo Lake and Mud Pond by Cleveland Cook, of Haskell, and C. McKinnon, of Butler, at Rotten Pond. Of these three broods the eggs were measured and averaged 2.24" by 1.26", eight, ten and nine, and adult birds observed and positively identified.

(7) *Anas rubripes tristis*—Black Duck. An abundant migrant and occasional winter visitant. A brood of eight with adult female observed at Echo Lake on June 8, 1910. Only record of nesting obtained.

(8) *Nettion carolinensis*—Green-winged Teal. A rather irregular migrant. Individuals observed April 14, 1912, and April 10, 1913, at Pompton Lake.

(9) *Aix sponsa*—Wood Duck. Occasional summer resident. In 1903 ten of this species were observed at Echo Lake, and in 1904 four more were seen at Greenwood Lake. Since that time they have been rather uncommon, only a few individuals appearing each year. One nest with twelve eggs found at Echo Lake on May 28, 1905, and adult female in the close vicinity at finding of this nest.

(10) *Branta canadensis*. A regular spring and autumn migrant. Arrives in spring, April 10 to 25, and departs in fall from October 15 to December 1.

(11) *Ardea herodias*—Great Blue Heron. An occasional visitant, especially during April. Recorded at Pompton Lake April, 21, 1911, and April 14, 1912. Also two were present at Echo Lake on June 20, 1902.

(12) *Butorides virescens*—Green Heron. Abundant summer resident. No nests of this species ever located, but they must certainly breed and nest here, as they are present from April 20 to September 10.

(13) *Philohela minor*—Woodcock. Summer resident; also abundant migrant. Occasional in winter.

(14) *Gallinago delicata*—Wilson Snipe. A regular spring and fall migrant. Arrives about April 1 and returns November 10. Occasionally found during summer months at Greenwood Lake.

(15) *Actitis macularia*—Spotted Sandpiper. Common summer resident. Arrives April 18 to May 10 and departs about September 15. Nests found at Echo Lake in adjacent corn fields and old stubbles on May 28, 1907, and June 2, 1910, and near Pompton Lake on May 16 and 22, 1909. At Sterling Forest, Greenwood Lake, two broods were observed on the 10th and 11th of June, 1907, in company with the adult birds feeding along the lake shore:

(16) *Oxyechus vociferus*—Killdeer. Common migrant and occasional summer resident. Arrives in the spring from March 26 to May 15 and returns in the autumn from September 3 to October 1. Found at Echo Lake on June 20, 1908; Mud Pond on July 4, 1908, and July 16, 1909; Greenwood Lake on August 2, 1910, and along the Pequannock River near Charlottesville on six different occasions between the 15th and 24th of August, 1911. Nests with eggs found at Echo Lake on May 23 and May 25, 1909, and at Greenwood Lake on May 2, 1912.

(17) *Colinus virginianus*—Bob-white. Permanent resident in the sparsely settled sections. Nests with eggs found at Haskell along a rail fence on May 3 and 5, 1908, and one near Charlottesville in a similar position on May 1, 1911. These nests in each case contained twelve eggs.

(18) *Bonasa umbellus*—Ruffed Grouse. Permanent resident wherever the preceding species is found. Nests of this species located at Ringwood and Midvale each year since 1909. Prior to this time one with fourteen eggs was found near Echo Lake and one at Upper Macopin on June 7, 1906, the latest date on which the writer has ever located a set of this species on which the female was incubating.

(19) *Zenaidura macroura carolinensis*—Mourning Dove. A common summer resident. Arrives during the latter part of March and early April and remains with us until October. Nests are to be found each year in the sparsely settled districts always in cedar and scrub pines.

(20) *Circus hudsonius*—Marsh Hawk. A common permanent resident. Wherever there is low marshy ground this hawk is sure to be present and their nests are occasionally found in these swamps.

(21) *Accipiter velox*—Sharp-shinned Hawk. A common permanent resident. Found breeding at Echo Lake (April 10, 1907), Sterling Forest, Greenwood Lake (May 3, 1909), Upper Macopin (April 14, 1912), and Pompton Lake (April 28, 1913).

(22) *Accipiter cooperi*—Cooper's Hawk. A common migrant, occasional summer resident and winter visitant. One nest with three eggs found on April 10, 1908, in a beech tree near Echo Lake.

(23) *Buteo borealis*—Red-tailed Hawk. An occasional winter visitor. Individuals observed as early as September 29 and as late as April 30. Never present during summer months.

(24) *Buteo platypterus* — Broad-winged Hawk. A common spring and fall migrant. Occasional during summer and very rare during winter.

(25) *Archibuteo lagopus sanctijohannis*—Rough-legged Hawk. A regular winter visitant. Occasional during spring and fall migrations.

(26) *Haliaeetus leucoccephalus*—Bald Eagle. Occasional about Greenwood Lake. Observed on June 18, 1906, and October 20, 1910, near Sterling Forest. Also one was seen near Echo Lake on July 15, 1912.

(27) *Falco peregrinus anatum*—Duck Hawk. Occasional transient visitant. Also rare winter resident. Observed on November 3, 1907, and February 6, 1910, at Greenwood Lake, and September 29 and October 18, 1912, at Echo Lake, and one at Midvale, April 14, 1913.

(28) *Falco sparverius*—Sparrow Hawk. A common permanent resident. Nests found each year since 1902 throughout the section, usually in hollow trees or deserted Woodpecker nests.

(29) *Falco columbarius*—Pigeon Hawk. Common transient visitant. Present occasionally during summer months, but no record of their breeding and building homes has been recorded for the section.

(30) *Pandion haliaetus carolinensis*. Abundant migrant. Found breeding at Pompton Lake, on the east shores of Greenwood Lake, and once at Echo Lake. Appears locally about April 15. Individuals observed as late as October 10.

(31) *Strix varia*—Barred Owl. A rather common permanent resident. Nests located at Midvale, Upper Macopin, Ringwood, Sterling Forest and Haskell during the past seven years.

(32) *Otus asio*—Screech Owl. A common permanent resident and breeder throughout the section.

(33) *Coccyzus americanus*—Yellow-billed Cuckoo. Common sum-

mer resident. Arrives May 4 to June 1 and departs October 1 to 10. Breeds and nests commonly in both townships.

(34) *Coccyzus erythrophthalmus*—Black-billed Cuckoo. Common summer resident. Arrives May 16 to June 4, slightly later than the preceding species, and departs usually ten days earlier in the fall. Nests are occasionally found, but not as often as those of the Yellow-billed Cuckoo.

(35) *Ceryle alcyon*—Belted Kingfisher. A common summer resident and breeder. Observed at Pompton Lake as late as December 18. Found nesting at Echo Lake and Sager's pond on May 28 and 29, 1908, and at Greenwood Lake on June 2, 1911.

(36) *Dryobates villosus*—Hairy Woodpecker. Permanent resident. To be found in the wooded sections throughout the year. Two nests with eggs found near Ringwood on May 16, 1907. Only records of their breeding here ever obtained.

(37) *Dryobates pubescens medianus*—Downy Woodpecker. A common permanent resident and breeder. More abundant during the winter than at other times during the year.

(38) *Sphyrapicus varius*—Yellow-bellied Sapsucker. A common visitant throughout the year. Never resident.

(39) *Melanerpes erythrocephalus*—Red-headed Woodpecker. Rather common permanent resident. Never abundant, but individuals present on each stroll out in the forested sections. Nests occasionally are found and the adults and young seen more often wherever they are sure of little interference at the hands of mankind.

(40) *Colaptes auratus luteus*—Flicker. A common permanent resident. Some winters these birds are more abundant than others. In 1907 and 1910 they were to be found daily, but in other years from December 1 until March 15 but few are met with. Breeds and nests in every available dead stump and tree throughout the section. This species during the past three years have been the especial enemies of the *Sturnus vulgaris* after their nesting holes have been completed and it is a common sight to see noisy conflicts on each walk between these two species. Usually the Flickers best their combatants, but in a number of cases the *vulgaris* has routed out the owners and taken possession of their homes.

(41) *Anthrostomus vociferus*—Whip-poor-will. Common summer resident. Arrives from May 7 to 26 and departs from September 9 to October 4. Breeds and nests throughout the section in the sparsely settled sections.

(42) *Chordeiles virginianus*—Nighthawk. Common summer

resident. Arrives May 15 to 30 and departs September 9 to October 1. Nests are occasionally found but not as often as the former species. This species is seen in the day more often than the former.

(43) *Chatura pelagica*—Chimney Swift. Common summer resident. Arrives April 26 to May 15 and departs September 15 to October 23. Nests abundantly throughout the section in unused chimneys of the farm houses.

(44) *Archilochus colubris*—Ruby-throated Hummingbird. Common summer resident. Arrives May 7 to 15 and departs September 4 to 15. Nests are occasionally found, but because of their seclusive habits they are widely separated and usually in out of the way places.

(45) *Tyrannus tyrannus*—Kingbird. Common summer resident. Arrives May 6 to 24 and departs September 2 to October 8. Breeds and nests abundantly throughout the section.

(46) *Myiarchus crinitus*—Crested Flycatcher. Common summer resident. Arrives May 6 to 30 and departs August 20 to September 15. Common breeder and home-builder throughout the section.

(47) *Sayornis phæbe*—Phœbe. Common summer resident. Arrives March 16 to 25 and departs September 26 to October 24. Nests under bridges in open sheds throughout the section.

(48) *Myiochanes virens*—Wood Pewee. Common summer resident. Arrives May 6 to 26 and departs September 24 to October 10. Common breeder and home-builder throughout the section.

(49) *Empidonax flaviventris*—Yellow-bellied Flycatcher. Occasional visitant. Observed September 8, 1911, and September 29, 1912, at Haskell.

(50) *Empidonax minimus*—Least Flycatcher. Common summer resident. Arrives April 28 to May 5 and departs September 19 to October 15. Nests throughout the section.

(51) *Otocoris alpestris*—Horned Lark. Occasional autumn and winter visitant. Observed at Echo Lake on September 29, 1908, and October 2, 1910 (Pompton Lake), and December 6, 7 and 8, 1912, at Charlottesville.

(52) *Cyanocitta cristata*—Blue Jay. Common permanent resident. Breeds and nests throughout the section.

(53) *Corvus brachyrhynchos*—Crow. Common permanent resident. Breeds and nests throughout the section. Of later years these birds have been particularly destructive to young chicks of the barnyards in this section.

(54) *Sturnus vulgaris*—European Starling. Common perma-

ment resident. These birds first appeared in the more populous sections about 1905 and increased yearly, until at the present time their numbers have become so abundant that they have spread out over the whole section and are nesting wherever places are afforded to them. In this section these birds, probably due to their abundance, have become very pugnacious to the resident species and are continually harassing them both while home-building and while in search of food.

(55) *Dolichonyx oryzivorus*—Bobolink. Common summer resident. Arrives in early May and departs from September 15 to 29. Numerous nests are located each year throughout this section.

(56) *Molothrus ater*—Cowbird. Common summer resident. Arrives March 15 to April 15 and departs October 1 to November 11. Their eggs have been located in the nests of the *Vireosylva gilva*, *Laniivireo flavifrons*, *Dendroica aestiva*, and *Setophaga ruticilla*.

(57) *Agelaius phoeniceus* — Red-winged Blackbird. Common summer resident. Arrives March 12 to 30 and departs October 7 to November 29. Nests wherever available grounds are located.

(58) *Sturnella magna*—Meadowlark. Common permanent resident. Breeds and nests throughout the section in old fields and wherever they are afforded sufficient protection from the invasion of mankind.

(59) *Icterus spurius*—Orchard Oriole. Common summer resident. Arrives about May 15 and departs between September 10 and 15. A male was observed at Echo Lake on October 3, which is the latest date on record for this species in this vicinity. Their nests may be found in most every orchard well away from the habitations of man.

(60) *Icterus galbula*—Baltimore Oriole. Common summer resident. Much more abundant than the former species. Arrives from May 4 to May 10 and departs September 15 to October 1. An abundant breeder and home-builder.

(61) *Euphagus carolinus*—Rusty Blackbird. Common migrant. appears locally from March 20 to April 14 and departs September 19 to October 2.

(62) *Quiscalus quiscula*—Purple Grackle. Common summer resident. Individuals present in sheltered swamps throughout the winter. Abundant breeder and nest-builder wherever the conifers abound.

(63) *Quiscalus quiscula arvensis*—Bronzed Grackle. Individuals of this species appear during the migrations each year.

(64) *Passer domesticus*—English Sparrow. This exotic is about the same here as it is in all rural sections.

(65) *Carpodacus purpureus*—Purple Finch. An abundant migrant and winter resident. Arrives from the south in the spring from April 10 to May 25, and returns in the fall about September 15.

(66) *Loxia curvirostra minor*.—Red Crossbill. Individuals of this species have been observed on three occasions: October 29, 1908 (Echo Lake); December 2 (Midvale), and April 17, 1910 (Upper Macopin).

(67) *Astragalinus tristis*—Goldfinch. Common permanent resident. Abundant breeder and nest-builder throughout the section.

(68) *Plectophenax nivalis*—Snowflake. Irregular winter visitor. Located on January 4, 1906, February 8, 1909, and January 14, 1910, on the eastern slopes of the Bearfort Mountains in West Milford Township.

(69) *Pooecetes gramineus*—Vesper Sparrow. Common summer resident. Arrives March 16 to April 10 and departs November 1 to December 2. Nests located in open fields always adjacent to a ready supply of water.

(70) *Passerculus sandwichensis savanna*—Savanna Sparrow. Regular but not common migrant. Arrives April 1 to May 10 and departs from September 15 to October 1.

(71) *Ammodramus savannarum australis*—Grasshopper Sparrow. Common summer resident. Arrives about April 30 and remains until October 10. Nests abundantly throughout the section.

(72) *Zonotrichia albicollis*—White-throated Sparrow. Common migrant and winter resident. Arrives in the fall, October 1 to 15, and departs in the spring from April 30 to May 20.

(73) *Spizella monticola*—Tree Sparrow. Common winter resident. Arrives about October 10 and departs about April 1.

(74) *Spizella passerina*—Chipping Sparrow. Common summer resident. Arrives March 15 to April 8 and departs October 20 to November 1. Observed as late as November 29. Nests abundantly throughout the section.

(75) *Spizella pusilla*—Field Sparrow. Common summer resident. Arrives about March 25 to April 9 and departs October 15 to November 10. Common breeder throughout the section in the open dry fields.

(76) *Junco hyemalis*—Slate-colored Junco. Abundant winter resident. Arrives about November 1 to 15 and departs April 15 to May 1.

(77) *Melospiza melodia*—Song Sparrow. Common permanent resident. Most abundant during migrations when their songs are

particularly beautiful. Abundant breeder throughout the section.

(78) *Melospiza georgiana*—Swamp Sparrow. Common summer resident wherever water and low marshy tracts prevail. Arrives March 10 to April 15 and departs October 20 to December 1. Nests occasionally found.

(79) *Passerella iliaca*—Fox Sparrow. Common migrant. Occasional winter resident, especially when the berries of the low bushes have not been destroyed by fires. Arrive in the spring, March 10 to 20, and depart in the fall, November 1 to 15.

(80) *Pipilo erythrophthalmus*—Towhee. Common summer resident. Arrives April 20 to May 1 and departs October 15 to November 10. Abundant breeder.

(81) *Cardinalis cardinalis*—Cardinal. Transient visitant, occurring at all times of the year. Observed at Echo Lake, Midvale, Greenwood Lake, and many places in the Bearfort and Kanouse Mountains.

(82) *Zamelodai ludoviciana*—Rose-breasted Grosbeak. Common summer resident. Arrives May 1 to 15 and departs September 15 to October 1. Nests occasionally found in the more restricted localities.

(83) *Passerina cyanea*—Indigo Bunting. Common summer resident. Arrives May 1 to 10 and departs September 15 to 25. Abundant breeder and home-builder.

(84) *Piranga erythromelas*—Scarlet Tanager. Common summer resident. Arrives about May 7 and remains until September 15. Nests wherever the oaks abound in the heavily wooded sections.

(85) *Progne subis*—Purple Martin. Occasional visitant during the summer months. Observed at Greenwood Lake June 20, 1908; July 15 and 16, 1910, and August 27, 1911. At Echo Lake two were seen on July 30, 1909.

(86) *Petrochelidon lunifrons*—Cliff Swallow. Common migrant and occasional summer visitant.

(87) *Hirundo erythrogastra*—Barn Swallow. Common summer resident. Arrives April 1 to 15 and departs September 5 to 15. Nests throughout the section in open barns and granaries.

(88) *Iridoprocne bicolor*—Tree Swallow. Common summer resident. Arrives about April 10 and departs about October 20. Nests are found occasionally in hollow trees near Greenwood and Echo Lakes.

(89) *Riparia riparia*—Bank Swallow. Common summer resident. Arrives about April 25 and returns about September 15. Nests in sand-banks and occasionally under bridges.

(90) *Stelgidopteryx serripennis*—Rough-winged Swallow. Rather common summer resident. Arrive April 15 to 20 and depart September 1 to 10. Nests wholly under bridges in this section.

(91) *Bonbycilla cedrorum*—Cedar Waxwing. Common summer resident; also irregular winter visitant. Nest in orchard throughout the section. Always very gregarious except during the breeding and nesting period.

(92) *Lanius borealis*—Northern Shrike. One male of this species observed near Midvale on February 22, 1909. Only record for the section.

(93) *Lanius ludovicianus migrans*—Migrant Shrike. A few of these have been observed from time to time near Haskell during the fall migrations of 1908 and 1909.

(94) *Vireosylva olivacea*—Red-eyed Vireo. A common summer resident. Arrive about May 8 and depart September 15 to 20. Abundant breeders and nest throughout the section.

(95) *Vireosylva gilva*—Warbling Vireo. Common summer resident. Arrive May 5 to 10 and depart about September 20. Nest throughout the section. This species is greatly imposed upon by the *Molothrus ater*, and out of seventy-five nests examined during the past decade, sixty-one contained eggs of this parasite.

(96) *Lanivireo flavifrons*—Yellow-throated Vireo. Common summer resident. Arrive May 1 to 10 and depart May 25 to October 2. Nest abundantly throughout section. Occasional eggs of the *Molothrus ater* are found in these nests, but the percentage is very small, probably not over five per cent.

(97) *Vireo griseus*—White-eyed Vireo. Occasional summer visitant. Never resident.

(98) *Mniotilta varia*—Black and White Warbler. Common summer resident. Arrive April 25 to May 4 and depart October 1 to 10. No nest of this species has ever been located, but they must certainly nest here, as they are present from the time that they arrive until they depart in the fall.

(99) *Helmitheros vermivorus*—Worm-eating Warbler. Occasional spring migrant and summer visitant. Rare in the fall. Arrive about May 5. Individuals have been observed at Greenwood Lake and on the western slope of the Bearforts during July and early August.

(100) *Vermivora pinus*—Blue-winged Warbler. Rather common migrant and summer visitant. Observed as late as October 3 near the southern edge of the section.

(101) *Vermivora chrysoptera*—Golden-winged Warbler. Rather

rare migrant. Passes north May 7 to 16 and returns about September 1. Observed as early as April 29 at Pompton Lake.

(102) *Compothlypis americana usneae*—Northern Parula Warbler. Common spring and fall migrant. Arrives May 5 to 15 and departs October 1 to 10.

(103) *Dendroica aestiva*—Yellow Warbler. Common summer resident. Arrives April 26 to May 5 and departs September 20 to October 1. Abundant breeder and home-builder in this section. Imposed upon occasionally by the *Molothrus ater*.

(104) *Dendroica carulescens*—Black-throated Blue Warbler. A common migrant and occasional summer resident at the northern limits of the section. Arrive May 7 to 15 and depart September 15 to October 3.

(105) *Dendroica coronata*—Myrtle Warbler. Common migrant and occasional winter visitant. Arrives April 9 to 20 and departs October 10 to November 5.

(106) *Dendroica magnolia*—Magnolia Warbler. Common migrant. Arrives May 7 to 15 and departs September 1 to 15.

(107) *Dendroica pensylvanica*—Chestnut-sided Warbler. Common summer resident. Very abundant during the spring migration. Rare during autumnal flight. Nests in many places in the sparsely settled sections.

(108) *Dendroica castanea*—Bay-breasted Warbler. Rare migrant. Located on May 5, 1909, May 14, 1911, and May 12, 1912, at Echo Lake. Only records for section.

(109) *Dendroica striata*—Blackpoll Warbler. Common spring and fall migrant. Arrives May 10 to 24 and returns September 15 to October 1.

(110) *Dendroica fusca*—Blackburnian Warbler. Tolerably common migrant. Most abundant during the southern migration. Arrives May 10 to 15 and departs September 1 to 15.

(111) *Dendroica virens*—Black-throated Green Warbler. Common migrant. Arrives May 4 to 8 and returns September 10 to 20.

(112) *Dendroica vigorsii*—Pine Warbler. Common migrant. Appears locally April 10 to May 5 and returns October 1 to 5.

(113) *Dendroica palmarum hypochrysea*—Yellow Palm Warbler. Common migrant. Arrives April 10 to 22. Returns October 1 to 15.

(114) *Sciurus auropallus*—Oven-bird. Common summer resident. Arrives about May 5 and remains until October 10. Nests abundantly throughout the section.

(115) *Sciurus norboracensis*—Water-Thrush. Common trans-

ient visitant. Numerous birds are seen each year at Pompton and Echo Lakes, especially during the latter part of August. Have been met with at Greenwood Lake on two occasions during the early part of September.

(116) *Geothlypis trichas*—Maryland Yellowthroat. Common summer resident. Arrives about May 5 and remains until October 10. Nests abundantly throughout the section.

(117) *Icteria Virens*—Yellow-breasted Chat. Common summer resident. Arrives May 10 to 15 and departs September 15 to 20. Common breeder throughout the section.

(118) *Wilsonia citrina*—Hooded Warbler. Common summer resident. Usually found in the more sparsely settled sections, where their nests are occasionally located. Arrive about May 7 to 10 and depart September 10 to 15.

(119) *Wilsonia pusilla*—Wilson Warbler. Common migrant. Arrives May 10 to 19 and returns September 1 to 5.

(120) *Wilsonia canadensis*—Canadian Warbler. Common migrant. Arrives May 10 to 16 and departs September 5 to 20.

(121) *Setophaga ruticilla*—Redstart. Common summer resident. Arrives April 28 to May 5 and remains until October 1 to 10. Nests abundantly throughout the section.

(122) *Anthus rubescens*—Pipit. Common spring and fall migrant. Arrive March 28 to April 1. Return October 15 to December 1.

(123) *Mimus polyglottos*—Mockingbird. One male observed near Upper Macopin, just above Echo Lake on July 28, 1909. This is the only bird of this species which has ever come to the writer's attention alive. Two other males are in the possession of Mrs. George Brown, Midvale, which she claims her husband shot some twenty years ago near Ringwood, and were preserved by him.

(124) *Dumetella carolinensis*—Catbird. Common summer resident. Arrive April 28 to May 5 and return October 1 to 20. Nest and breed throughout the section.

(125) *Toxostoma rufum*—Brown Thrasher. Common summer resident. Arrives April 10 to 25 and depart October 10 to 15. Nest abundantly throughout the section.

(126) *Thryothorus ludovicianus*—Carolina Wren. Occasional summer resident, but more often visitant. One family of adults and four young observed at Pompton Lake, July 18, 1907.

(127) *Troglodytes aedon*—House Wren. Common summer resi-

dent. Arrive April 25 to May 10. Depart September 25 to October 10. Nest commonly throughout section.

(128) *Cistothorus stellaris*—Short-billed Marsh Wren. Common summer resident, but not nearly as abundant as the following species. Nests found each year since the late nineties at Echo Lake and Mud Pond.

(129) *Telamatorchus palustris*—Long-billed Marsh Wren. Common summer resident wherever suitable grounds are located. This is by far the most common of the *Troglodytes* of this section. Nest abundantly wherever they are found. Arrive about May 15 and depart about October 1.

(130) *Certhia familiaris americana*—Brown Creeper. Common winter resident.

(131) *Sitta carolinensis*—White-breasted Nuthatch. Common permanent resident. Present in greater numbers during the winter than at other times of the year. Three nests have been located in this section since 1903 in the Bearforts.

(132) *Sitta canadensis*—Red-breasted Nuthatch. Occasional winter visitant. Observed December 5, 1908 (Upper Macopin); January 17, 1910 (Pompton Lake); February 2, 1911 (Echo Lake), and December 17 and 22, 1912, at Ringwood.

(133) *Bæolophus bicolor*—Tufted Titmouse. Irregular winter visitant throughout the section. On rare occasions they are observed during June and September in the heavily wooded sections.

(134) *Penthestes atricapillus*—Black-capped Chickadee. Common permanent resident. Nests are occasionally located in the heavily forested sections well away from the habitations of man and where a ready supply of water and food are present.

(135) *Regulus satrapa*—Golden-crowned Kinglet. A common winter resident. Arrive about September 15 and remain until April 1.

(136) *Regulus calendula*—Ruby-crowned Kinglet. Common migrant. Arrive April 10 to 25 and return September 20 to October 15.

(137) *Hylocichla mustelina*—Wood Thrush. Common summer resident. Arrive about May 1 and remain until September 25. Nest commonly throughout the section.

(138) *Hylocichla fuscescens*—Wilson Thrush. Common summer resident. Arrive April 15 to 25 and depart September 15 to 20. Never during the past decade has a nest of this species been located in this section. But there is no doubt in the mind of the

writer but that they breed and nest here, as they are present from the time they arrive until they depart in the fall.

(139) *Hylocichla aliciae*—Grey-cheeked Thrush. Common Migrant. Arrive May 1 to 20 and depart October 1 to 10.

(140) *Hylocichla ustulata swainsoni* — Olive-backed Thrush. Common migrant. Arrive May 5 to 15 and return September 20 to 25.

(141) *Hylocichla guttata pallasi*—Hermit Thrush. Common migrant. Occasional winter visitant, and during the years 1907-1912 they have been met occasionally during the summer months in the heavily forested sections of Bearforts west of Greenwood Lake. On May 27, 1910, a completed nest was located, and on June 10 contained four young birds about five days old. This is the only record I can find for this species nesting in New Jersey.

(142) *Planesticus migratorius*—Robin. Common summer resident. Also abundant during entire year in a few sheltered swamps. Nest abundantly throughout the section.

(143) *Sialia sialis*—Bluebird. Common permanent resident. Nest abundantly throughout the section.

(144) *Phasianus colchicus*—English Pheasant. Common permanent resident. Breeds and nests in the more rural sections of the two townships.

THE CARDINAL AND THE BROWN THRASHER.

BY MARION E. SPARKS.

Miss Sherman's notes on the Brown Thrasher explain in part why books and birds do not always agree. In central Illinois the Thrasher, like the Rose-breasted Grosbeak, sings in town, from the tallest twig that will bear his weight, is cheerful and alive to the tip of each feather. In the country osage orange hedges or orchard trees provide the Thrasher with both singing and nesting places, the latter usually five to six feet from the ground, though one was found near the ground by means of the fuss the birds were making because a small child was looking into the nest. I have never found another lower than five feet from the ground.

The Catbirds of my acquaintance have been impudent, not shy, for while they can move more quietly than mice, they seem to fear nothing; however, they refuse to remain when