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## THE PRESENT STATUS OF THE IVORY-BILLED WOODPECKER (*CAMPEPHILUS PRINCIPALIS*).

#### BY EDWIN M. HASBROUCK.

THE LAST fifty years of American ornithology have witnessed the gradual diminution of several of our species of birds once extremely common, and with two in particular this amounts to practical extermination. The first of these to disappear was the Great Auk (*Plautus impennis*) last heard of in 1844; the second, the Labrador Duck (*Camptolaimus labradorius*), was formerly common as far south as Chesapeake Bay, but is now exceedingly rare and perhaps extinct.

For some years it has been a common belief that two more species were fast following in the same direction; the Carolina Paroquet (*Conurus carolinensis*), and the Ivory-billed Woodpecker (*Campephilus principalis*). Mr. Chapman, in his search for the Paroquet, proved conclusively that it is by no means so nearly exterminated as formerly supposed, and in a paper \* before the Linnæan Society of New York showed that it is still more or less common in the wilder and more remote parts of Florida; and an attempt will be made to show that the bird in question, while by no means as abundant as *Conurus*, is still found in greater or less numbers in many parts of the southern United States, the Mississippi Valley, and in Texas. By many the Ivory-bill and Paroquet are associated together on account of their rarity and almost identical distribution, and for this reason the two are cited here as parallel cases.

The collection of data concerning the relative abundance and distribution of *Campephilus principalis* has for some time past been to me of considerable interest, but not until recently has the material taken such shape as to warrant publication. My personal experience with the species has been extremely limited, although I have had the pleasure of meeting with it in central Florida on one memorable occasion referred to farther on; for the present, however, I shall confine my attention to the former and present actual distribution of the Ivory-billed Woodpecker in the United States.

<sup>\*</sup> Proc. Linn. Soc. New York, March 7, 1890.

The genus *Campephilus* is essentially a tropical one, embracing thirteen species, all confined to America, there being nothing approaching it in the Old World. Of these, two only are closely related to *principalis*: the Imperial Woodpecker (*C. imperialis*), the largest of the genus, found in the Sierra Madre region of Mexico (the extreme western slope of the Sierra Madre Mountains, on the eastern and western borders respectively of the provinces of Durango and Sonora), and *C. principalis bairdii*, a subspecies of the Ivory-bill found in northern Cuba. *Principalis* will, therefore, be readily recognized as the northern representative of the entire genus. There is a chance that *imperialis* follows the mountain region northward into southern Arizona, as record \* shows that it has been taken in Mexico within sixty miles of the northern border, but as yet no instance is known of its occurrence within the limits of the United States.

In regard to nesting habits the same may be said as of other species seldom met with,—'little enough is known about them'; consequently a few notes derived from other sources may not come amiss. In an article by Maurice Thompson entitled 'A Red-headed Family,' is the following interesting account of the nest:

. . . . "I looked and saw two large round cavities, not unlike immense auger holes, running darkly into the polished surface of the stump, one about six feet below the other, the lower twenty five feet above the ground. . . . I reached the determination that it was my duty to rob that nest in the interest of knowledge. . . . I made minute examinations of the rifled nest, and also tore out the other excavation, so as to compare the two. They were very much alike, especially in the jug shape of their lower ends. From a careful study of all the holes (apparently made by Campephilus) that I have been able to find in either standing or fallen trees, I am led to believe that this jug shape is peculiar to the Ivory-bill's architecture, as I have never found it in the excavations of other species, save where the form was evidently the result of accident. The depth of the hole varies from three to seven feet, as a rule, but I found one that was nearly nine feet deep, and another that was less than two. Our smaller Woodpeckers, including Hylotomus pileatus, usually make their excavations in the shape of a gradually widening pocket, of which the entrance is the narrowest part."

In the possession of Maj. B. F. Goss, of Pewaukee, Wisconsin, is a set of five eggs taken in Jasper Co., Texas, near the

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<sup>\*</sup> Specimen in Smithsonian Institution,

Neches River on May 3, 1885, which are said to be the only ones known in collections. Mr. Goss informs me that the nest was "situated forty feet from the ground, with the excavation nearly two feet deep and large enough to insert the arm; the eggs lay on the bare wood, are quite pyriform in shape, glossy white, and measure  $1.44 \times 1.06$ ,  $1.45 \times 1.06$ ,  $1.44 \times 1.07$ inches."

Audubon gives the number laid by this species as eight; others, from five to eight; while according to Coues six may be considered as an average; and in the nest found by Mr. Thompson, already mentioned, five were found to be the complement. The only account concerning the young that has been found is that by Mr. W. E. D. Scott, in 'The Auk' (Vol. V, 1888, p. 186) under date of March 17, 1887, at Tarpon Springs, Florida, which is quoted substantially as follows:

"Found nest of Ivory-billed Woodpecker, and obtained both parent birds and the single young bird which was the occupant of the nest.... The opening was oval in shape, being three and one half inches wide and four and a half inches high. The cavity .... was cylindrical in shape and a little more than fourteen inches deep. The young bird in the nest was a female, and though over one third grown, had *not yet opened its eyes.* The feathers of the first plumage were apparent, beginning to cover the down, and were the same in coloration as those of the adult female bird."

The first definite records of its distribution and habits are those of Audubon and Wilson, both of whom give pleasing accounts of this species, though they appear to have approached its region of habitation from different directions. The former, in his 'Ornithological Biography,' published in 1832, says: "We first met with this magnificent Woodpecker near the junction of the Ohio with the Mississippi River, where it is frequently observed south from this locality, and northward towards the Missouri River." Wilson \* informs us that he "first observed it twelve miles north of Wilmington, North Carolina," and here it may be well to call attention to the fact that this is the most northern actual record for the Atlantic coast. In a paper by Coues and Yarrow, † however, on the natural history of Fort Macon, North Carolina, published in 1878, is the following statement: "Information was

<sup>\*</sup> Birds of America.

<sup>†</sup> Proc. Acad. Nat. Sci. Phila , 1878, 21-28.

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received from an apparently respectable source of the occurrence of this species whose appearance was described with tolerable exactness, but the statement is given for what it may be worth, no specimen having been seen." In preparing the map, therefore, it has been deemed best to include Fort Macon within the area of distribution, which, almost to an absolute certainty, marks the northern range in the east.

The records of Audubon and Wilson are in the thirties, and from that time on various accounts of the relative abundance of Campephilus throughout its habitat have been published; the majority relating to its occurrence in the Gulf States, where its true home may be said to be; but it has been the aim in this paper to show the most northern records and those relating to its general distribution for the past ten years. To find the former range was a comparatively easy task, as it was necessary only to search the literature, while to determine its present status, not only were published records consulted, but many letters were sent to competent persons in the Southern States and the Mississippi Valley requesting such information as could be given in regard to it. In using the material collected, many allowances had to be made, - some replies were vague, almost worthless. while others assisted materially in preparing the present paper, but to all who so courteously responded I wish to express my warmest thanks and appreciation, and especially am I indebted to my friend, Mr. Robert Ridgway, for the courtesy shown in many ways. In arranging the dates, the dividing line has been placed at 1880, all records prior to that being considered as coming under former distribution, and all within the past decade as showing the present distribution.

On the map all that area bounded by the heavy black line represents the region as a whole in which the Ivory-bill has been observed, the part in shade represents an attempt to outline the present distribution, based on the records for the last ten years and the information received from various sources, while the single isolated spots in black show the localities of comparatively recent capture. A careful examination of recent records shows that *Campephilus principalis* is now confined to the low swamp country along the coast. This area, for the most part below one hundred feet in elevation, is characterized by dense forests of bald cypress (*Taxodium distichum*) in strong contrast to the pine barrens of the uplands. It will be convenient, therefore, to con-

sider the hundred foot contour as the line marking in general the boundary between the cypress swamps and the pine barrens, and consequently the boundary of the present distribution of the Lory-billed Woodpecker.

As before stated, the species is confined almost entirely to country below the hundred foot line, but there are a few extralimital records that are worth considering; these are the Mississippi Valley records for Newport, Arkansas, (elevation from one hundred to five hundred feet above the sea), and Fayette and Kansas City, Missouri, (altitude six hundred and fifty and seven hundred and fifty feet respectively) which are explained by the fact that in this vast river basin the slope is so gradual that the cypress swamps in which the bird delights extend farther into the interior of the country.

Beginning now in North Carolina, with Fort Macon and Wilmington, we pass into the pine barrens\* of upper South Carolina where Dr. Burnett† mentions it as being resident in 1851. In the collection of Mr. G. N. Lawrence, is a pair taken near Charleston about forty years ago by Mr. John G. Bell. Mr. Lawrence writes that at the time they were procured the species was quite abundant, but that few, if any, are to be found there at the present time.‡ Coues mentions it as "Resident but exceedingly rare," and "chiefly confined to the lower country." Mr. Walter Hoxic writes that prior to 1870 it was common on the Hunting Islands, but is now an exceedingly rare visitor; one specimen was taken on Johnson's Island in March, 1879 or 1880, and two years ago (1888) one was seen on Pritchard's Island.

In Georgia the records are extremely scarce, the only one at hand being the nest found by Maurice Thompson, already cited; his was in the southeastern part of the State in the Okefinokee swamp, but lacks the important item, the date.

Next in line comes Florida. In no other State is the pine line § so well marked or so closely connected with the distribu-

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<sup>\*</sup> The pine barrens of upper South Carolina consist for the most part of the following counties: Burnwell, Darlington, Marlborough, Orangeburg, and Sumter.

<sup>†</sup>Proc. Bost. Soc. Nat. Hist. 1V, 115-118.

<sup>&</sup>lt;sup>†</sup>Proc. Bost. Soc. Nat. Hist. XII, 1868, 104-127.

 $<sup>\</sup>delta$  It may be well to state specifically what is termed the pine line. To begin with, such a line is extremely difficult, if not next to impossible, to locate, as pine penetrates he cypress in the low lands for a greater or less distance at every point; while, on the other hand, cypress ceases entirely as soon as higher ground is reached, and it is this line marking the limit of the cypress that I have attempted to show and to define.

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tion of this Woodpecker, and, as might be expected, many records are to be found; in fact, so admirably adapted to the wants of this bird is by far the larger portion of the State, that there are here more actual instances of its capture than in all the rest of the States east of the Mississippi.

It will consume too much time to mention more than a few important records. At Cedar Keys it was taken on January 31, 1859 (specimen in Smithsonian Institution). Mr. S. C. Clarke \* writes : " In 1872 I procured a male near New Smyrna, Volusia County"; he also heard some in 1870 at Merritt's Island. Mr. Scott states (in the article previously referred to), "the same day that the nest was found eleven were counted in the swamp in question, sometimes four or five being in sight at once"; while in 'Forest and Stream,' XXIV, 427, 'W. A. D.' of Hawkinsville, Orange County, writes that he and his two brothers had killed between twenty and twenty-five of these birds during the past ten years, for a taxidermist in Palatka. The last one seen was on May 4, 1885. While in Florida in 1886, the writer saw one of these self-same birds stuffed and mounted. On March 8, 1886, Mr. H. A. Kline † killed one on St. Mark's River, near Tallahassee, and a few weeks previous saw two others in the same locality. In the Smithsonian collection is a magnificent specimen taken by Major Byrnes, at Bristol, Liberty County, December 7, 1889. For the present year (1890) the records, so far as known, are two in number : on March 27, an acquaintance, Captain Gregg, a veteran hunter, informed me that he had recently returned from a hunting trip on the Wacissa River, in Jefferson County, and that among other birds, the Ivory-billed Woodpecker was quite common; that he had killed two, but not knowing how to skin them, they were thrown away. I questioned Captain Gregg closely regarding the birds, and there is no doubt in my mind that they were Campephilus. The other specimen was taken by Mr. Frank M. Chapman on the Suwance River, twenty miles from the mouth, on March 24. Mr. Chapman's testimony is that this was the only bird met with during the three weeks passed on the river and, from the information gathered that it is there an extremely rare bird. The most southern record for the State is furnished by Mr. William Brewster, who obtained three specimens from Dade County in 1889, while a single individual was offered to Mr. Charles B.

<sup>\*</sup> Forest and Stream, XXIV, 367. †Forest and Stream, XXIV, 163.

Cory, claimed to have been shot near Fort Myers, on the Caloosahatchie River. Mr. Frederick Ober, in his report of the trip through the Okeechobee region,\* claims to have seen what he took to be *Campephilus*, but failed to secure a specimen. It is probable that it occurs there, but as expeditions into this region are few, it is not surprising that there are no records. In the collection of Mr. Brewster † is a series of fourteen specimens taken from 1876 to 1889 inclusive, all of which, with the exception of two taken in 1876, were collected within the past ten years; these, together with the foregoing records, prove beyond doubt that the State of Florida is the centre of abundance of the Ivory-bill.

My own experience with the species, although limited, is as follows :-- I had been spending the winter of 1885-1886 in Florida, and during the month of March had made my headquarters at the home of my friend, Mr. E. G. Smith, on Big Lake George. One of my favorite trips was up Juniper Creek, a small stream emptying into the head of the lake one mile west of the famous Volusia bar; the country through which it passes is one of those wild, semi-tropical swamps, so common throughout the Anhingas (Anhinga anhinga), Little Blue Her-Gulf States. ons (Ardea carulea), Egrets (A. egretta) and Limpkins (Aramus giganteus) were by no means uncommon, and it was in search of these that Mr. Smith and I took a boat on March 26 and started for this locality. We took with us as oarsman 'Jim' (one of the help on the place), who had done considerable collecting for me, and in whose accuracy as a marksman I had some confidence. We had gone perhaps a mile up the stream when a new and peculiar note sounded from the forest, which I can only liken as do other writers to the false high note of a clarionet; hastily landing I immediately went in search of its author (as I had not the faintest idea from what source it proceeded), but owing to the thickness of the underbrush it was next to impossible to penetrate farther than a few yards and, the noise ceasing entirely, I returned and we continued up the stream. Noon found us eating our lunch on a small knoll some four miles from the lake in the very thickest of the swamp. Around us stood gigantic cypress trees whose trunks and branches were adorned with thousands of air plants, and from which the myriads of vines which twined and twisted, and the gray Spanish moss hanging in long

<sup>\*</sup>Forest and Stream, April 23, 1874. †See tabulation of records.

festoons, cast a gloom and solemnity hard to realize by one who has never seen it, yet lending a certain grandeur that the student of nature is not slow to appreciate. Scattered through the swamp and giving a tropical air to the whole were countless palmettoes (Sabal palmetto) towering to a height of seventy-five or a hundred feet, and it was in a little clump of these that we were taking our nooning. Suddenly that strange note sounded once, twice, hree times, - approaching nearer with each repetition. It sounded exactly like the note of the White-bellied Nuthatch, only much ouder and stronger, and grasping my gun, I remarked that I was going to kill the biggest Nuthatch on record. Hardly had the words left my lips when, with a bound and a cackle, a magnificen male Ivory-bill alighted in the trees directly over our heads; for a moment I was too astonished to speak, but in that moment it was joined by its mate, and the two began hammering away at the palmetto trunks. It was impossible for me to shoot without changing my position, while to move would be to alarm the birds; Jim saw my dilemma and whispered that he could kill them from where he sat, so passing him the gun I watched him take aim. He fired but missed, and the Woodpeckers bounded away into the thickest part of the swamp; hastily snatching the gun I started in pursuit, but failed to find them. Day after day I returned to the same locality in hope of securing them, but without success, and on April 7 I was obliged to leave for home without adding this much coveted species to my collection.

Mr. Hoxie, who has spent much time in the haunts of the Ivory-bill in Florida, informs me that the Seminole name for it is 'Tit-Ka,' and there is a tradition that during a contest of strength it tapped so hard with its bill that the blood and brains flew out of the back of its head.

In Alabama Gosse \* mentions it as not at all rare at Dallas in 1859; in 1865 it was taken on the west side of the Tombigbee River in Marengo County, and in 1866 Mr. W. C. Avery shot a female at Millwood on the Black Warrior River, ten miles west of Greensboro. At Crump Springs on the Buttahatchie in the spring of 1886 Mr. G. V. Young observed it nesting in a dead pine, some seventy feet from the ground, and in the fall of 1889 he identified one in Wilcox County while on a deer hunt. It is rare and seldom seen, but confined to the lower swamp country.

<sup>\*</sup> Gosse, 'Letters from Alabama,' 1859, 91.

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### In Mississippi Prof. Wailes \* speaks of it as follows:

"Chief of his tribe, the majestic Ivory-bill Woodpecker cleaves his way through the air, in a series of peculiar and singularly graceful undulations . . . 'Disdaining the grovelling haunts of the common herd of Woodpeckers,' he seeks his favorite resorts in the loftiest trees in the most secluded forests, and from the blasted arms of the lordly cypress or the mast-like trunk of the towering pine sends forth his clear and clarion notes, and startles the ear with the resounding strokes of his powerful beak."

Mr. Young (already mentioned) writes from Waverly, Clay Co.,—"In the early settlement of this section the Ivory-bill was very common, but since the country has become settled, the species, naturally wild, has retired to the unfrequented parts of the forest and is rarely seen here now (1890). I saw a beautiful specimen in Monroe County in 1885 on the Tombigbee River, while in the flat woods beyond Houston they are frequently met. I have seen quite a number recently in the Mississippi bottom, which is now a favorite place for them, as the timber, which has been deadened, furnishes them with all the material necessary for a good living, and my observation leads me to the belief that a red oak timbered country is their favorite feeding ground in this region." In January, 1885, Mr. Maurice Thompson secured a specimen at Bay St. Louis, and according to Mr. Rawlings Young, of Corinth, it is still found in the Yazoo Delta, and along the Mississippi River.

Its presence in Louisiana rests on two records:—the first, a specimen at the Smithsonian taken at Prairie Mer Rouge, Moorhouse Parish, in 1853; the second, an account of its being seen at St. Joseph, Tensas Parish, by Mr. Gideon Mabbett, and for which no date is given. This scarcity of records is not surprising when the nature of the courtry and the class of people inhabiting by far the larger part of it is taken into consideration, and the same may be said of Arkansas, Missouri and Tennessee, that in swamp country where the main object in life is to raise sufficient during the summer months for sustenance throughout the winter, little scientific element is to be found.

Texas, however, has a somewhat better showing,—the testimony of Mr. G. H. Ragsdale being that in the early settlement of Cooke County it is reported from that locality, but is not found

<sup>\*</sup> Rep. Agric. and Geol. Miss. 1854, 323-324.

there now; and Audubon \* mentions it as very abundant along Buffalo Bayon. In 1865, Dresser, in his list of Texas birds,† states that the species was "found on the Brazos River, where the timber is large; and a planter on the Trinity River told me that it is not uncommon there. A friend of mine on the Brazos promised to procure the eggs for me, but wrote to me, in May, 1864, saying that he had been to the nest and found it to contain young ones. He said that these birds are by no means rare on the Upper Brazos." Mr. Nehrling ‡ states that in 1882 it was very rare in the northern parts of Harris and Montgomery Counties, while last but not least is the record of Mr. Goss, in Jasper County in 1885, already mentioned.

Returning to the Mississippi Valley proper and continuing northward into Arkansas we find that Audubon mentions it as occurring along the Arkansas River; while in 1885 it was still found in the northeastern part of the State, being abundant at Newport. §

At Caddo, Indian Territory, it passed the winter of 1883-1884, § while in Missouri, according to Mr. Lientz, it formerly bred at Fayette, § although not known to do so at present, and as far west as Kansas City § it was observed to pass a few winters immediately preceding 1885.

Indiana, Illinois and Kentucky each have one record (although Audubon mentions it as occurring in Indiana and Kentucky, failing, however, to name any locality). In Franklin County, Indiana, it was a former resident, but none have been seen for many years. Mr. Ridgway states that he "has a distinct recollection of what he believes to have been this species in White County, some forty miles south of Mt. Carmel," Illinois,¶ some time between 1858 and 1860; while Pindar\*\* informs us that it is said to have been formerly common in Fulton County, Kentucky, and that Mr. J. A. Taylor saw several about 1883 or 1884.

For Tennessee no records have been found, although it would seem highly probable that the bird occurs in the bottom lands bordering the Mississippi, especially when we consider the record

\* Aud. Orn. Biog. V, 525.
† Ibis, 1865, 468.
‡ Bull. N. O. C. VII, 1882, 170.
◊ Miss. Valley Migr. 1888, 128.
(Coxe's Geol. Surv. Ind. 1869, 211.
¶Nat. Hist. Surv. Ill. 1889, 375.
\*\*Auk, VI, 1889, 313.

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from Fulton County, Kentucky, just north of and adjoining this State, and also those directly south in Louisiana, and west in Arkansas.

It will be seen from the foregoing, that in many instances the accounts are modified with the statement that the species is extremely rare as compared with past years, or else has disappeared from the localities entirely. Probably this is not altogether owing to the actual decrease in the numbers of the birds, but to its extreme wildness and desire for seclusion ;-----Savage liberty is a pre-requsite of its existence, and its home is the depth of the woods remotest from the activities of civilized man." As a result many of those regions which were formerly its haunts have been abandoned for the wilder and more inaccessible parts of the forest. Andubon relates the finding of a nearly completed nest, and, on his being discovered in the vicinity by the owners, of its immediate abandonment. Surely a bird as wild, as wary, as this would not remain in the vicinity where man was constantly to be met! There are thousands of square miles of swamp throughout the Mississippi Valley and Gulf States that never will or can be reclaimed or settled, country that is admirably suited to this bird, and in which, as I have shown, it is much more common today than elsewhere; and here, it is safe to say, it will be found indefinitely; for, into those swampy fastnesses in which it most delights, few care to penetrate, at certain seasons none dare; and as but few are killed, and each pair in existence today will presumably raise its brood the coming spring and together with them repeat the multiplication each successive year,--it is reasonable to assume that the species will be found there many years hence.

To conclude, it would appear that prior to 1860 the Ivorybilled Woodpecker was distributed from Fort Macon, N. C., along the coast as far west as the Brazos River in Texas, and extending towards the interior for an average distance of seventyfive miles; in the Mississippi Valley as far inland as central and western Missouri, southern Illinois, Indiana, and western Kentucky, together with a portion of Indian Territory. From 1860 to 1880, it had retired before the march of civilization from many of its former haunts, forsaking entirely Indiana, Illinois, North Carolina and all but the extreme eastern portion of Texas; while from 1880 to 1890 (although a characteristic bird of the Austroriparian region) it has practically confined its abode to the denser swamps bordering the South Atlantic and Gulf States.

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| North Carolina          |                             | Wilson, Am. Orn.                    |
|-------------------------|-----------------------------|-------------------------------------|
| Wilmington              |                             | Coues and Yarrow.*                  |
| Fort Macon              | ?                           | Coues and Tarrows                   |
| South Carolina          | - Q # .                     | Burnett.‡                           |
| Pine Barrens            | 1851<br>Alimit 1850         | Lawrence coll., 2 specimens.        |
| Charleston              | About 1850<br>Prior to 1870 | Hoxie, in epist.                    |
| Hunting Islands         | March, 1879 or 1880         |                                     |
| Johnson's Island        | March, 107901 1000          |                                     |
| Georgia<br>Okefinokee   |                             |                                     |
| Swamp                   |                             | Thompson, 'Red-headed Family.'      |
| Florida                 |                             |                                     |
| Cedar Keys              | Jan. 31, 1859               | Smith. Inst. coll.                  |
| Enterprise              | March 26 & 29, 1861         | Ibis, IV, 1862, 127-197.            |
| Volusia                 | February 12, 1869           | Allen, 'Mamm. & Winter Birds        |
| , or a or a             |                             | of East Florida' (3 spec.).         |
| Enterprise              | March 5, 1869               | Allen, 'Mamm. and Winter Birds      |
| 1                       |                             | of East Florida' (3 spec.)          |
| Hawkinsville            | March 15, 1869              | Ibid.                               |
| Merritt's Island        | 1870                        | S. C. Clark, F. & S. XXIV, 367.     |
| New Smyrna              | 1872                        |                                     |
| Wekiva River            | June 7 & Aug 23             | Brewster: collection (2 spec.).     |
|                         | 1876                        | Smith. Inst. coll.                  |
| Wekiva River            | Sept. 7, 1877               |                                     |
| Lake Monroe             | 1877 & 1878                 | Merriam, notes before Linn. Soc.,   |
| Lente's Landing         | Winter of 1878-79           | New York 1879.                      |
| X.                      |                             | Cory, in epist.                     |
| Fort Myers              |                             |                                     |
| Alabama                 | 1859                        | Gosse, 'Letters from Alabama.'      |
| Dallas<br>Maria Co      | 1865                        | W. C. Avery, in epist.              |
| Marengo Co.             | 1866                        | at at an at                         |
| Millwood                |                             |                                     |
| Mississippi             | ?                           | Wailes§                             |
| Clay Co.                |                             | G. V. Young, in epist.              |
| Louisiana               |                             |                                     |
| PrairieMerRoug          | e 1853                      | Smith. Inst. coll.                  |
| Texas                   |                             | G II D. Jola in spict               |
| Cooke Co.               |                             | G. H. Raysdale, in epist.           |
| Buffalo Bayou           |                             | Aud, Orn. Biog. V, 525.             |
| Brazos & Trinit         | ty                          | Dresser, Ibis, 1865, 468.           |
| Rivers                  | 1865                        | Dresser, 1018, 1005, 400.           |
| Arkansas                |                             |                                     |
| Along Arkans            | as                          | Aud, Orn. Biog. I, 1832, 341.       |
| River                   |                             | filled, Of In Dioge 17 - 5 7 51     |
| Illinois                | 1858-1860                   | Ridgway, Nat. Hist. Surv., Ill.,    |
| White Co.               | 1050-1000                   | 1889, 375.                          |
| Indiana                 |                             |                                     |
| Indiana<br>Franklin Co. |                             | Coxe's Geol. Surv., Ind., 1869,211. |
| Missouri                |                             |                                     |
| Fayette                 |                             | Cooke, 'Bird Migration in Missis-   |
| rayette                 |                             | sippi Valley,' 1888, 128.           |
|                         |                             |                                     |

# TABLE SHOWING THE FORMER DISTRIBUTION OF Campephilus principalis.

\*Coues and Yarrow, Proc. Acad. Nat. Sci., Phila., 1878, 21–28, †Burnett, Proc. Bost. Soc. Nat. Hist. IV, 115–118. &Wailes, Rep. Agri. & Geol. Miss., 1854, 323–324.

| South Carolina         | 000               | YY                                    |
|------------------------|-------------------|---------------------------------------|
| Pritchard's Island     | 1888              | Hoxie, in epist.                      |
| Florida                |                   |                                       |
| Rosewood               | Nov. 24 & Dec. 3. |                                       |
|                        | 1881              | Brewster collection (2 spec.).        |
| Panasotkee Lake        | 1881              | Scott, Bull. N. O. C. VI, 14-21.      |
| Withlacoochee          |                   |                                       |
| River                  | 6.6               | 66 66 66 66 62                        |
| Clearwater             |                   |                                       |
| Tampa                  | Sept. 20, 1883    | Brewster collection.                  |
| Hawkinsville           | May 4, 1885       | 'W. A. D.' F. & S. XXIV, 427.         |
| St. Mark's River       | March 8, 1886     | Kline, F. & S. XXVI, 163.             |
| Wekiva River           | 1886              | Boardman, " " "                       |
| Juniper Creek          | March, 1886       | E. M. Hasbrouck.                      |
| Linden                 | March 30, 1886    | Brewster collection.                  |
| De Soto Co.            | Feb. 3, 1887      | · · · · · · · · · · · · · · · · · · · |
| Tarpon Springs         | March 17, 1887    | Scott, Auk, V, 186.                   |
| Dade Co.               | May-June, 1889    | Brewster collection (3 spec.).        |
| Davenport              | June 16, 1889     |                                       |
| Cypress                | July 1, 1889      | 66 66                                 |
| Polk Co.               | July 5, 1889      | 66 66                                 |
| Bristol                | Dec. 7, 1889      | Smith. Inst. coll.                    |
|                        | Winter, 1889-90   | Gregg (informant).                    |
| Suwanee River          | March 24, 1890    | Chapman, in epist.                    |
| Alabama                | 11111011 24, 1090 | Chapman, in chist.                    |
| Crump Springs          |                   |                                       |
| (Buttahatchie          |                   |                                       |
| River)                 | 1886              | G. V. Young, in epist.                |
| Wilcox Co.             | 1889              |                                       |
| Mississippi            | 1009              |                                       |
| Monroe Co.             | 1885              |                                       |
|                        |                   |                                       |
| Bay St. Louis          | Jan., 1885        | Thompson, 'Red-headed Family.'        |
| Mississipi bot-        | Pagantly          | C. V. Voung in quint                  |
| toms<br>V Diversitette | Recently          | G. V. Young, in epist.                |
| Yazoo River delta      | 1890              | B. Young, in epist.                   |
| Louisiana              | 2                 | C11                                   |
| St. Joseph             | \$                | Gideon Mabbett, in epist.             |
| Texas                  | . 00 -            | Nobelli - D. H. M. O. O. 1911         |
| Harris Co.             | 1882              | Nehrling, Bull. N. O. C. VII. 170.    |
| Montgomery Co.         | 1882              |                                       |
| Jasper Co.             | May 3, 1885       | B. F. Goss, in epist.                 |
| Arkansas               | 00                |                                       |
| Newport                | 1885              | Cooke, 'Bird Migration in Missis-     |
|                        |                   | sippi Valley,' 1888, 128.             |
| Indian Territory       |                   |                                       |
| Caddo                  | Winter 1883–84    | Cooke, 'Bird Migration in Missis-     |
|                        |                   | sippi Valley,' 1888, 128.             |
| Missouri               |                   |                                       |
| Kansas City            | About 1884        | Cooke, 'Bird Migration in Missis-     |
|                        |                   | sippi Valley,' 1888, 128.             |
| Kentucky               |                   |                                       |
| Fulton Co.             | About 1883        | Pindar, Auk, VI, 313.                 |
|                        |                   |                                       |

### TABLE SHOWING THE PRESENT DISTRIBUTION OF Campephilus principalis.