

to find specific differences. They are probably specimens which have developed under more favorable circumstances than are usually accorded to the species.

- 33. *Enneacanthus obesus* (Grd.) Gill.
- 34. *Enneacanthus gloriosus** (Holbr.) Jor.
- 35. *Enneacanthus eriarchus* (Jor.) McKay,

10. Genus *MICROPTERUS* Lacépède.

- 36. *Micropterus salmoides* (Lac.) Henshall in "Book of the Black Bass" (advance sheets) = *Micropterus pallidus* Gill & Jor.
- 37. *Micropterus dolomieu* Lacépède = *Micropterus salmoides* Gill.

INDIANA UNIVERSITY,

Bloomington, Ind., March 10, 1881.

A REVIEW OF THE GENUS *CENTURUS*, SWAINSON.

By ROBERT RIDGWAY.

INTRODUCTION.

The collection of the United States National Museum contains examples of all the known species of the genus *Centurus*, excepting *C. hypopolius* (Wagl.), *C. rubriventris* Swains., and *C. terricolor* Berlepsch, the two latter being of some what doubtful status. More or less confusion has hitherto existed regarding the nomenclature of several of the Middle American forms, and it was the desire to clear away as much of this confusion as possible that prompted the investigations upon which this review is based, and which have led to the discovery of relationships which were before quite unsuspected, at least by the writer.

Of the fourteen forms treated of in this paper as sufficiently distinct for definition, not more than six, or less than one-half, can be said to be perfectly isolated, or to possess the requirements of perfectly distinct species; at least the abundant material which has been examined in this connection proves beyond question the intergradation of four so-called species, while it suggests more or less strongly the probability or possibility of such relationship with regard to five of the remaining ten. Those which appear to be unquestionably distinct are the three West Indian species, *C. radiolatus* (Wagl.), *C. superciliaris* (Temm.), and *C. striatus* (Müll.), and three continental species, *C. uropygialis*, Baird, *C. hypopolius* (Wagl.), and *C. elegans* (Swains.). Those which certainly intergrade, and are therefore to be united under one specific designation, are *C. aurifrons* (Wagl.), *C. santaeruzi* Bp., *C. dubius* (Cabot), and *C. hoffmanni*, Caban., all of which are, however, strongly characterized geographical races or sub-species. The five forms of doubtful relationship are (1) *C. carolinus* (Linn.), which may possibly grade into *C. rubriventris*, but which is probably distinct; (2) *C. rubriventris* (Sw.), with which I

am not autoptically acquainted, but which appears to be a northern form of *C. tricolor*, or, possibly, a local race of *C. aurifrons dubius*; (3) *C. tricolor* (Wagl.), which in some specimens so closely approaches *C. aurifrons hoffmanni* that it is often difficult to decide to which a given specimen should be referred; and (4) *C. terricolor*, Berlepsch, which is possibly a local race of *C. tricolor*. In the following synopsis, I have subordinated as sub-species only those forms which are known with certainty to intergrade, all of which belong to *C. aurifrons*. Those of doubtful relationship are treated as species, since it seems best to accord them that rank until it can be proven they are not entitled to it. Two more or less apocryphal species referred by Malherbe (*Monographie des Piciidées*, ii, 1862) to this genus, *Picus gerini*, Temm. and *P. aurocapillus*, Vig., are not included in the synoptical table, but a transcription of Malherbe's account of these supposed species is given at the end of this paper.

LITERATURE.

The genus *Centurus* has received special attention, so far as I have been able to discover, from but three authorities, viz, Malherbe, Cabanis, and Sundevall, whose arrangements of the species, with the equivalent names of the present synopsis, are given below in chronological order. Also, as showing the latest arrangement, the names adopted in Sclater and Salvin's *Nomenclator Avium Neotropicalium*.

(1.) MALHERBE (1862).

Monographie des Piciidées, etc., etc., par Alf. Malherbe. 4 vols. folio. Metz: 1861-2.

[The genus "Zebrapicus" (= *Centurus*) is treated in vol. ii (text), pp. 223-250, and vol. iv (plates), pl. —.]

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|-----|---|-------------------------------------|
| 1. | <i>Zebrapicus superciliaris</i> , p. 223, pl. 102, figs. 1, 2, and 4. | = <i>C. superciliaris</i> . |
| 2. | " <i>elegans</i> , p. 225, pl. 102, figs. 5, 6. | = <i>C. elegans</i> . |
| 3. | " <i>pucherani</i> , p. 227, pl. 103, figs. 1, 2. | (= <i>Melanerpes pucherani</i> .) |
| 4. | " <i>hypopolius</i> , p. 228, pl. 103, figs. 4, 5. | = <i>C. hypopolius</i> . |
| 5. | " <i>gerinii</i> , p. 231. | (= <i>Melanerpes pucherani</i> ?) |
| 5. | " <i>striatus</i> , p. 231, pl. 107, figs. 2, 3. | = <i>C. striatus</i> . |
| 6. | " <i>carolinus</i> , p. 234, pl. 103, figs. 7, 8. | = <i>C. carolinus</i> . |
| 7. | " <i>radiolatus</i> , p. 237, pl. 104, figs. 5, 6. | = <i>C. radiolatus</i> . |
| 8. | " <i>aurifrons</i> , p. 240, pl. 104, figs. 1, 2, 3. | = <i>C. aurifrons</i> . |
| 9. | " <i>santa-cruzi</i> , p. 241, pl. 105, figs. 4, 5. | = <i>C. aurifrons santa-cruzi</i> . |
| 10. | " <i>erythrophthalmus</i> , p. 243, pl. 105, figs. 1, 2. | = <i>C. aurifrons dubius</i> . |
| 11. | " <i>kaupii</i> , p. 245, pl. 106, figs. 4, 5. | = <i>C. uropygialis</i> . |
| 12. | " <i>tricolor</i> , p. 247, pl. 106, figs. 1, 2. | = <i>C. tricolor</i> . |
| 13. | " <i>rubriventris</i> , p. 248, pl. 107, fig. 1. | = <i>C. rubriventris</i> . |
| 14. | " <i>aurocapillus</i> , p. 250. | (Unidentified.) |

(2.) CABANIS (1862).

Übersicht der im Berliner Museum befindlichen Vögel von Costa Rica. <Jour. für Orn. Heft v, x. Jahrgang, September, 1862, pp. 321-336. [A synopsis of the species of *Centurus*, with synonymy and critical remarks, is given on pp. 322-330.]

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| 1. | <i>C. aurifrons</i> , p. 323. | = <i>C. aurifrons</i> , as restricted. |
| 2. | <i>C. carolinus</i> , p. 324. | = <i>C. carolinus</i> . |
| 3. | <i>C. albifrons</i> , p. 324. | = <i>C. aurifrons santacruzii</i> and <i>C. aurifrons dubius</i> . |

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| 4. <i>C. polygrammus</i> , n. sp. p. 326. | = <i>C. aurifrons santacruxi</i> (the south Mexican form tending toward <i>hoffmanni</i>). |
| 5. <i>C. Hoffmannii</i> , n. sp. pp. 322, 327. | = <i>C. aurifrons hoffmanni</i> . |
| 6. <i>C. elegans</i> , p. 327. | = <i>C. elegans</i> . |
| 7. <i>C. tricolor</i> , p. 327. | = <i>C. tricolor</i> and <i>C. rubricentris</i> |
| 8. <i>C. Pucherani</i> , p. 328. | (= <i>Melanerpes pucherani</i> .) |
| 9. <i>C. hypopolius</i> , p. 329. | = <i>C. hypopolius</i> . |
| 10. <i>C. uropygialis</i> , p. 330. | = <i>C. uropygialis</i> . |

(3.) SUNDEVALL (1866).

Conspectus Avium Picinarum, edidit Carolus J. Sundevall, Custos Musei Zool. Stockholmensis. Stockholmiae: 1866. 1 vol. 8vo. pp. i-xiv. 1-116. [The species of *Centurus* are referred to the genus *Picus*, under which they are ranged as a "Tribus 15. *Pici albofusciati*," on pages 52-56.]

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| 150. <i>Picus striatus</i> Gm. (p. 52). | = <i>C. striatus</i> . |
| 151. " <i>radiolatus</i> Wagl. (p. 52). | = <i>C. radiolatus</i> . |
| 152. " <i>albifrons</i> Swains. (p. 52). | = <i>C. aurifrons dubius</i> . |
| 153. " <i>aurifrons</i> Licht. (p. 53). | = <i>C. aurifrons</i> (as restricted). |
| 154. " <i>polygrammus</i> Cabanis (p. 53). | = <i>C. aurifrons santacruxi</i> . |
| 155. " <i>carolinus</i> L. (p. 53). | = <i>C. carolinus</i> . |
| 156. " <i>urophygialis</i> Baird (p. 54). | = <i>C. uropygialis</i> . |
| 157. " <i>hoffmanni</i> Cabanis (p. 54). | = <i>C. aurifrons hoffmanni</i> . |
| 158. " <i>tricolor</i> Wagl. (p. 54). | = <i>C. tricolor</i> . |
| 159. " <i>hypopolius</i> Wagl. (p. 55). | = <i>C. hypopolius</i> . |
| 160. " <i>elegans</i> Swains. (p. 55). | = <i>C. elegans</i> . |
| 161. " <i>superciliaris</i> Temm. (p. 55). | = <i>C. superciliaris</i> . |
| 162. " <i>gerini</i> Temm. (p. 55). | (= <i>Melanerpes pucherani</i> .) |

(4.) SCLATER & SALVIN (1873).

Nomenclator Avium Neotropicalium, etc., etc. auctoribus Philippo Lutley Selater, A. M., Phil. Doct., etc., etc. et Osberto Salvin, A. M., etc. Londoni: Sumptibus Auctorum. 1873.

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|--|---|
| 1. <i>striatus</i> (Bodd.) ex ins. Hayti. | = <i>C. striatus</i> . |
| 2. <i>radiolatus</i> (Wagl.) ex ins. Jamaica. | = <i>C. radiolatus</i> . |
| 3. <i>albifrons</i> (Sw.) ex Mex. et Guatemala. | = <i>C. aurifrons santacruxi</i> and <i>C. aurifrons dubius</i> . |
| 4. <i>aurifrons</i> (Wagl.) ex Mex. bor. | = <i>C. aurifrons</i> (as restricted). |
| 5. <i>tricolor</i> (Wagl.) ex Columb. Venezuela et Veragua. | = <i>C. tricolor</i> . |
| 6. <i>hoffmanni</i> , Cab. ex Costarica. | = <i>C. aurifrons hoffmanni</i> . |
| 7. <i>hypopolius</i> (Wagl.) ex Mexico. | = <i>C. hypopolius</i> . |
| 8. <i>elegans</i> (Sw.) ex Mexico. | = <i>C. elegans</i> . |
| 9. <i>superciliaris</i> (Temm.) ex ins. Cuba. | = <i>C. superciliaris</i> . |
| 10. <i>pucherani</i> (Mall.) ex Mex. Am. centr. et Æquat. occ. | (= <i>Melanerpes pucherani</i> .) |

Genus CENTURUS, Swainson.

Centurus, SWAINS. Classif. B. ii, 1837, 310 (type, *Picus carolinus*, Linn.).—BAIRD, B. N. Am., 1858, 108.—B. B. & R., Hist. N. Am. B. ii, 1874, 553.—COUES, Key, 1872, 196.

Zebrapicus, MALHERBE, Mem. Ac. Metz, 1849, 360; Nouv. Class. Pic., 1850, —; Mon. Pic. ii, 1862, 223 (type, *Picus carolinus* Linn.).

CH.—Bill about as long as the head, or a little longer, the length from the tip to the nostril about equal to the tarsus, or a little greater; decidedly compressed anteriorly, but depressed at the extreme base; the

lateral groove distinct for half the length of the bill; culmen decidedly but gently curved from the base; gonyes nearly straight, and about half as long as the culmen. Nostrils broad, elliptical, situated about midway between the culmen and tomium, and only partly concealed by the frontal tufts. Anterior outer toe a little longer than the posterior, the inner anterior toe decidedly shorter, and the inner hind toe only about half its length. Wings long and broad, third to fifth primaries longest, the first equal to the sixth to the ninth. Tail about two-thirds as long as the wing, graduated, the feathers (except the outer) rather abruptly attenuated at ends. Colors, banded with black and white, or yellow, above, with more or less of the pileum scarlet in the male; below plain, the abdomen tinged with red, orange, or yellow in most species.

The so-called genus *Centurus* is scarcely more than an artificial division of *Melanerpes*, distinguished from the typical section of that genus chiefly, if not only, by a different system of coloration, which characterizes most of the species. Even in this respect, however, the intergradation of the two sections is so complete that certain species (notably *Zebrapectus pucherani* of Malherbe) may, with almost equal propriety, be referred to either group. The species referred to has usually been included in *Centurus*; but after careful consideration of the question, I have concluded to place it in *Melanerpes*, as being more closely related to certain species of that group than to any of the species of *Centurus* as here restricted. Its nearest allies are undoubtedly the *Melanerpes chrysauchen* of Salvin, which it resembles very closely, and "*Picus*" (= *Melanerpes*) *flavifrons* of Vieillot, and it may well be placed with them, while if allowed to remain in *Centurus* its position would be that of an isolated or aberrant species.

Following is a list of the forms recognized in this review, with the number of specimens of each which have been examined in connection with the preparation of this paper:

Species.	U. S. Nat. Mus.	Mus. Salv.-Godm.	Mus. G. N. Lawrence.	Mus. H. W. Henshaw.	Mus. S. Cabot.	Mus. R. Ridgway.	Total of each species.
1. <i>C. carolinus</i>	41			7		11	59
2. " <i>tricolor</i>	7	7	6			1	21
3 (?) " <i>rubriventris</i>							0
4 (?) " <i>terricolor</i>							0
5. " <i>aurifrons</i>	20	2	3				25
5. a " <i>santacruzii</i>	17	6	6				29
5. b " <i>hoffmanni</i>	4	2	2				8
5. c " <i>dubius</i>	1	2	4		1		8
6. " <i>radiolatus</i>	5	2	3				10
7. " <i>uropygialis</i>	27		1	4			32
8. " <i>hypopolius</i>		2					2
9. " <i>elegans</i>	10	2	4				16
10. " <i>superciliaris</i>	8	2	3				13
11. " <i>striatus</i>	2	1	1				4
Total number of specimens examined							227

SYNOPSIS OF THE SPECIES OF CENTURUS.

A.—No red on the rump.

a. Without black about the head.

(*Rump and upper tail-coverts white, immaculate, or only slightly varied with black.*)

1. *C. CAROLINUS*. ♂: Entire pileum and nape scarlet, paler on the forehead; abdomen tinged with pinkish red; inner webs of middle tail-feathers varied with white. ♀: Similar, but crown ash-gray, the red of the head confined to the forehead, occiput, and nape. Wing, 5.00–5.50; culmen, 1.00–1.20. *Hab.*—Eastern United States.

2. *C. TRICOLOR*. ♂: Crown, occiput, and nape, deep scarlet, sometimes interrupted across the occiput; forehead dingy yellowish white, abdomen deep scarlet; both webs of middle tail-feathers broadly barred or transversely spotted with white; upper tail-coverts immaculate white, or scantily barred, lower with dusky V-shaped markings. ♀: Pileum light drab, growing whitish anteriorly; otherwise like the ♂. Wing, 4.05–4.55; culmen, 0.75–1.10. *Hab.*—Trinidad and Venezuela to Veragua.

[3.? *C. RUBRIVENTRIS*. ♂: Similar to *tricolor*, but frontlet, cheeks, and chin bright yellow, separated from the scarlet of the crown by a white frontal band; white bars of back, etc., very much narrower than in *tricolor*; middle tail-feathers without white markings, except toward base of outer webs. Wing, 4.75; culmen, 0.80. *Hab.*—Yucatan.

[4.? *C. TERRICOLOR*. Similar to *tricolor*, but larger, the bill longer and broader; the lower parts darker olive-brown, the abdomen darker red, and the upper and lower tail-coverts regularly barred with black. *Hab.*—“Orinoco district or Trinidad.”]

5. *C. AURIFRONS*. ♂: Crown deep scarlet; nape scarlet, orange, or yellow, coalesced with the scarlet of the crown or separated from it by an occipital band of grayish or olivaceous; frontlet yellow, orange, or red, separated from the red of the crown by a whitish frontal band; abdomen tinged with yellow, orange, or red; markings of the tail-feathers and coverts exceedingly variable. ♀: Differing in the color of the crown, which is entirely grayish, instead of red. Size exceedingly variable. *Hab.*—Middle America.

α. *aurifrons*. Red crown-patch usually isolated; frontlet and abdomen usually yolk-yellow; breast, etc., pale dingy ash, or dull grayish white; tibiae and crissum with broad V-shaped marks of black; inner webs of middle tail-feathers usually solid black; white bars of upper parts broad, nearly or quite as wide as the black ones. Wing, 5.20–5.65; culmen, 1.20–1.40. *Hab.*—Table-lands of Mexico, north to Southern Texas.

β. *santacruxi*. Red crown-patch usually confluent with the orange-red of the nape; frontlet and abdomen saffron-orange; breast, etc., olive-drab, or deep smoky gray; tibiae and crissum thickly barred with blackish on a dingy yellowish ground; inner webs of middle tail-feathers usually marked, more or less, with white; white bars of upper parts much narrower than the black ones. Wing, 5.00–5.75; culmen, .95–1.25. *Hab.*—Southern Mexico, Honduras, and Guatemala.

γ. *dubius*. Crown, occiput, and nape intense scarlet, without any shade of orange; frontlet scarlet, separated from the red of the crown by a band of nearly pure white; abdomen, intense scarlet or almost carmine-red; inner webs of middle tail-feathers usually solid black; white bars of upper parts very much narrower than the black ones; tibiae and crissum densely barred with blackish. Wing, 4.95–5.40; culmen, 1.00–1.30. *Hab.*—Yucatan.

δ. *hoffmanni*. Red of crown usually isolated, as in *aurifrons*; frontlet, pale dull yellowish; lower parts dark colored, with the abdomen saffron yellow as in *santacruxi*; flanks, etc., coarsely barred, as in *aurifrons*, and white bars of upper parts broad, as in that race; inner webs of middle tail-feathers edged with

- * white and deeply indented with broad spots of the same, the outer webs with a longitudinal stripe of white. Wing, 4.60-4.75; culmen, .90-1.05. *Hab.*—Costa Rica.

(*Rump and upper tail-coverts black, narrowly barred with white.*)

6. *C. RADIOLATUS*. ♂: Pileum and nape bright scarlet-crimson; remainder of the head, including a frontal band, soiled white (sometimes pure white on the forehead), changing quite abruptly on the jugulum, breast, etc.; abdomen, deeply tinged with saffron-red, upper parts black with narrow thread-like bars of white; crissum, etc., black, narrowly barred with white. ♀: Similar, but crown and occiput smoky gray, lighter anteriorly. Wing, 5.00-5.40; culmen, 1.30-1.45. *Hab.*—Jamaica.

(*Rump and upper tail-coverts white, regularly barred with black.*)

7. *C. UROPYGIALIS*. Head, neck, and lower parts rather light smoky drab, usually deepest on the nape; paler on the forehead, and tinged with yellow on the abdomen; upper parts, including rump and upper tail-coverts, broadly barred with black and white; inner webs of middle tail-feathers white, broadly barred with black. ♂: Crown with a central patch of scarlet-crimson. ♀: Without any red on the crown. Wing, 5.00-5.30; culmen, .95-1.25. *Hab.*—Northwestern Mexico and contiguous portions of Southwestern United States.

b. With black markings about the head.

8. *C. HYPOPOLUS*. ♂: Head, neck, and lower parts deep smoky gray, or purplish drab, darkest on head above and nape, lightest on forehead, chin, and throat; orbits surrounded by a blue-black circle, interrupted posteriorly by white on the upper eyelid; centre of crown with a patch of crimson, and lower part of auriculars touched with the same; upper parts broadly barred with glossy black and brownish white; inner webs of middle tail-feathers varied with white. ♀: Similar, but lacking the red of the crown. Wing, 4.90-5.00; culmen, .85-.90. *Hab.*—Table-lands of Southern Mexico.

9. *C. ELEGANS*. ♂: Crown and occiput rich crimson-scarlet, nape bright orange or yellow; orbits surrounded by black, broader above and behind the eye; rest of head smoky grayish, tinged more or less anteriorly with golden yellow; abdomen tinged with golden yellow; upper parts broadly barred with black and white; both webs of middle tail-feathers broadly barred with white. ♀: Similar, but crown and occiput ash-gray, the latter sometimes suffused with black. Wing, 4.50-4.90; culmen, .95-1.10. *Hab.*—Western Mexico.

10. *C. SUPERCILIARIS*. ♂: Pileum and nape bright crimson-scarlet, with a large longitudinal patch of black on each side of the crown, extending from the anterior angle of the eye to the occiput; rest of head, including band across forehead, dull whitish, changing gradually to buffy drab on breast, etc.; middle of abdomen bright red; upper parts broadly barred with black and white, the back tinged with buff-yellow; inner webs of middle tail-feathers white, with broad bars of black, the outer webs with a longitudinal stripe of white. ♀: Similar, but whole forehead and anterior part of crown white, the posterior portion of the crown, and the occiput, black, this confluent with the black superciliary patches. Wing, 5.40-6.00; culmen, 1.30-1.65. *Hab.*—Cuba.

B. Rump bright blood-red, or crimson-scarlet.]

11. *C. STRIATUS*. ♂: Pileum, nape, lower rump, and upper tail-coverts bright scarlet-crimson; lower posterior side of neck with longitudinal stripes of black and dingy white; remainder of head and neck smoky-gray, gradually changing to deep smoke-brown on breast, etc.; abdomen, crissum, etc., light yellowish olive-green, without markings; upper parts (back, etc.), broadly barred with black and bright yellowish olive-green; middle tail-feathers solid black. Wing, 4.30-5.20; culmen, 1.00-1.30. *Hab.*—Hayti and St. Domingo.

1. CENTURUS CAROLINUS.

- Épiche ou Pic rayé de la Louisiane*, BUFF. Ois. vii, 73.
Pic rayé, de la Louisiane, BUFF. Pl. Enl. 692 (♀ ad.)—VIEILL. N. D. xxvi, 90.
Picus ventre rubro, CATESBY, Car. i, 19, pl. 19, f. 2.
Picus carolinus, LINN. S. N. ed. 10, i, 1758, 113 (based on Catesby, l. c.); ed. 12, i, 1776, 174.—WILS. Am. Orn. i, 1808, 115, pl. 7, fig. 2.—NUTT. Man. i, 1832, 572.—AUD. Orn. Biog. v, 1839, 169, pl. 415; Synop. 1839, 183; B. Am. iv, 1842, 270, pl. 270. SUNDEV. Consp. Pic. 1866, 53.
Centurus carolinensis, SWAINS. Classif. B. ii, 1837.
Centurus carolinus, BONAP. Comp. List, 1838, 40; Consp. i, 1850, 119.—BAIRD, B. N. Am. 1858, 109; Cat. N. Am. B. 1859, no. 91.—DRESSER, Ibis, 1865, 469 (S-Texas; common resident).—ALLEN, Pr. Essex Inst. iv, 1864, 53 (Massachusetts; accidental); Bull. M. C. Z. ii, 1871, 306 (Florida); iii, 1872, 180 (Kansas).—COUES, Key, 1872, 196; Check List, 1873, no. 306; B. N.-W. 1874, 289.—RIDGW. Bull. Essex Inst. Nov. 1873, 185 (Colorado); Field & Forest, June, 1877, 209 (Boulder Co. Colorado); Cat. N. A. B. 1880, no. 372; Nom. N. A. B. 1881, no. 372.—B. B. & R. Hist. N. Am. B. ii, 1874, 554, pl. 52, figs. 1, 4.—NELS. Bull. Essex Inst. viii, 1876, 116, 153 (n. e. Illinois: rare sum. res. leaving last of Oct.: comm. in migr.).—MERRIAM, Trans. Conn. Acad. iv, 1877, 65 (accid. in Connecticut).—BREWST. Bull. Nutt. Orn. Club, ii, Oct. 1877, 108 (do.).—MEARNS, ib. July, 1878, 146 (Cornwall, N. Y. Sept. 1870).
Zbrapicus carolinus, MALII. Mém. Ac. Metz, 1849, 361; Mon. Pic. ii, 1862, 234; iv, 1862, pl. ciii, figs. 7 (♂ ad.) 8 (♀ ad.).
Melanerpes (Centurus) carolinus, RIDGW. Ann. Lyc. N. Y. Jan. 1874, 378 (Illinois).
Picus zebur, BODD. Tabl. P. E. 1783 (ex Pl. Enl. 602).
Picus griseus, VIEILL. O. A. S. ii, 1807, pl. 116 (♂ ad.).
Picus erythrauchen, WAGL. Syst. Av. 1827, no. 38; Isis, 1829, 513.
Le Pic Carolin, VALENC. Dict. Sc. Nat. xi, —, 181.
Le Pic gris, VIEILL. l. c.
Pic gris rayé, VIEILL. N. D. xxvi, 77.
Pic rayé gais, VIEILL. "Dict. pitt. hist. nat. p. 627."
Red-bellied Woodpecker, CATESBY, Car. i, 1731, 19, et auct.
Carolina Woodpecker, LATH. Synop. i, 1781, 570.
Le Pic à bre de la Caroline, }
Pic à bre Carolin, } MALII. l. c.

Hab.—Eastern United States, west to the eastern slope of Rocky Mountains, south to Florida and Texas. Rare in northern States, and apparently wanting in the valley of the Rio Grande. Most numerous in the Mississippi Valley and Gulf States.

Adult ♂: Entire pileum and nape bright scarlet, deepest on the crown, the forehead lighter, or more pinkish (sometimes approaching reddish white); rest of the head and neck, with lower parts, pale buff-grayish, lighter on the chin and throat; middle of the abdomen pinkish red, the remainder of the lower parts sometimes tinged with the same, especially on the breast and cheeks; tibiæ and crissum white, relieved by rather sparse hastate marks of black. Back scapulars and upper part of rump broadly and distinctly barred with black and white, the two colors in about equal proportion, or the black bars rather the wider; wings black, the coverts and secondaries barred with pure white; primaries tipped with white, narrowly margined with the same beyond their emargina-

tions, and blotched with white near the base; upper tail-coverts and lower part of rump white, relieved by rather sparse irregularly hastate spots or bars of black, the coverts sometimes nearly immaculate. Tail black; the inner webs of the *intermedia* chiefly white, crossed with a greater or less number of broad black bars, or transverse spots, the outer webs with a longitudinal stripe of white on the basal half; outer rectrices broadly barred at the ends with dull white, and with spots of the same indenting the outer web; next pair of feathers tipped with yellowish white. *Adult* ♀: Similar to the ♂, but red of the crown replaced by deep ash-gray, lighter anteriorly; lower parts tinged with red only on the abdomen, and cheeks with little if any red tinge. *Young* ♀: Whole pileum dull brownish gray, transversely mottled with darker; nape dull light fulvous-red; back and scapulars barred with grayish white and grayish dusky, much less sharply than in the adult; abdomen tinged with dull buff, but without red. *Adult*: Total length (fresh specimens), 9-10½ inches; extent, 15½-17½; wing (skins), 4.85-5.40; tail, 3.50-3.90; culmen, 1.00-1.20; tarsus, .80-.90. Bill (in life), slate-black, the basal portion of gonys sometimes mixed with light ash; iris varying from ferruginous to bright scarlet; naked orbital spaces olivaceous-ashy; legs and feet olivaceous. In the *young*, iris brown.

Among adult males of this species, the principal variation is in the amount of red tinge on the lower parts. In most examples from the Atlantic States and in many from the Mississippi Valley, the reddish is entirely confined to the middle of the abdomen, while on the head there is a mere tinge of it on the lores and cheeks. Many western specimens, however, have the breast more or less strongly tinged with purplish pink, while two now before me (No. 34317, Kansas City, Mo., May 14, 1864, E. Coues, and one, in my own collection, from Mount Carmel, Ill. May 28, 1878), have not only the lores and cheeks, but the whole chin and upper throat also, bright salmon-color, or saffron-pink. In these highly-colored specimens the forehead is a bright saffron-red, while the Kansas City specimen above alluded to has the red on the abdomen very intense, approaching a saffron-scarlet. Floridan specimens are slightly smaller than northern ones, have the white bars of the dorsal region narrower, but are on the average less richly colored than examples from the Mississippi Valley, only one of five adult males approaching those described above in the depth and extent of the red tinge to the lower parts, throat, etc. The under surface is usually more dingy than in northern examples, while the forehead appears to be lighter red, more abruptly contrasted with the intense crimson-scarlet of the crown. Of six adult females from South Florida, two (Nos. 395, coll. H. W. Henshaw, Cedar Keys, December 6, 1871, and 4924, Amelia Island, G. Würdemann), have the occiput slightly mottled with black. Two examples from Southern Illinois, in my own collection (obtained October 15, 1873, and October 7, 1879), agree in this respect, however, with these Florida examples. They likewise have the black bars of the

dorsal region equally wide, but they are decidedly larger birds. A male from Waller County, Texas (No. 70963, Kunliien and Earll), agrees in every respect with Illinois examples. An adult female from Southern Illinois (Mount Carmel, October 18, 1879), has the occiput red, like the nape, while there are several red feathers in the middle of the crown.

2. CENTURUS TRICOLOR.

Picus tricolor, WAGLER, Isis, 1829, 512 (♂ ad.; "Mexico").

Centurus tricolor, LICHT. Nomencl. 1854, 76.—SCL. Cat. 1862, 343, no. 2049 (Bogota; Venezuela).—TAYLOR, Ibis, 1864, 93 (Venezuela).—SCL. & SALV. P. Z. S. 1864, 367 (Isth. Panama); Nom. Neotr. 1873, 100 (Venezuela, Colombia, Veragua).—SALVIN, P. Z. S. 1867, 157 (Veragna); 1868, 169 (Venezuela).—WYATT, Ibis, 1871, 381 (Sta. Marta, Colombia).

Zbrapicus tricolor, MALH. Mon. Pic. ii, 1862, 247; iv, pl. evi, figs. 1, 2 (♂ and ♀ ad.).

Centurus carolinus var. *tricolor*, B. B. & R. Hist. N. Am. B. ii, 1874, 554.

"*Centurus subelegans*" REICH. Handb. 1851, 411, pl. delxv, figs. 4415-16 (nec Bonap. 1837).—SCL. P. Z. S. 1855, 162; 1856, 143.

"*Centurus rubricentris*", LAWR. Ann. Lye. N. Y. vii, 1861, 299 (Panama; nec Swains. 1838).

Le Piczèbre tricolore, } MALH. l. c.
Piczèbre tricolor, }

Adult ♂: Forehead dull smoky whitish, more or less tinged with yellow anteriorly (on the frontal feathers); crown, occiput, and nape, bright crimson-scarlet, lighter posteriorly, occasionally interrupted by a band of smoky gray or light drab across the occiput; remainder of head and neck, with lower parts, smoky drab, the head lighter anteriorly; middle of the abdomen bright scarlet; tibiae and crissum marked with broad V-shaped bars of black. Back and scapulars broadly barred with black and white, the bars of the latter narrower than the black ones; wings black, the coverts and secondaries broadly barred with white; primaries bordered terminally with white, and blotched with the same near the base. Upper tail-coverts and most of the rump white, often immaculate, sometimes irregularly and scantily barred with dusky. Tail black, both webs of the *intermedia* broadly barred or transversely spotted with white; lateral rectrices hoary smoky drab on the under surface, the terminal portion with several more or less complete whitish bars. *Adult* ♀: Similar to the ♂, but red of the pileum replaced by light drab, growing gradually paler anteriorly. Bill blackish; feet dusky (olivaceous in life?). *Young* ♀: Similar to the adult, but all the markings less sharply defined, and the colors duller. *Young* ♂: More dully colored than the adult, the nape dull orange-fulvous, instead of scarlet, the bars of the back, etc., more indistinct, and tinged with light brownish. Wing, 4.05-4.55; tail, 2.50-2.70; culmen, .75-1.10; tarsus, .75-.80.

In general appearance this species is quite a miniature of *C. carolinus*, but it is probably distinct specifically. Close inspection reveals many points of difference besides the very much smaller size. The frontlet is

yellow instead of pinkish red, and the deep red of the crown is very abruptly defined anteriorly against the whitish of the forehead, instead of blending into the color of the frontlet, there being no trace of a whitish frontal band in *C. carolinus*; the abdomen in *C. tricolor* is bright scarlet, instead of light pinkish red. In *C. carolinus* the tibiae and lower tail-coverts have a few longitudinal, irregularly sagittate marks of dusky, whereas these parts in *tricolor* are heavily banded with transverse, somewhat V-shaped bars. In *carolinus* only the inner webs of the middle tail-feathers are barred or spotted with white, while in *tricolor* both webs are so marked. *C. tricolor* is also very much darker colored underneath than *C. carolinus*. The females of the two species do not resemble one another so closely as do the males. In that of *C. tricolor* the red of the nape is both more restricted and duller than in that of *C. carolinus*, the pileum is of a light smoky drab, instead of pure ash-gray, and the forehead is dull whitish, tinged with yellow anteriorly, instead of pinkish red.

These comparisons apply to the most southern examples of *C. carolinus* I have been able to examine, viz, a considerable number from Texas and South Florida.

In this species, as in most others, there is much individual variation. In a majority of the adult males the red of the nape is continuous with that of the crown, but in some (as in an example from New Granada, in the collection of Salvin and Godman), the occiput is completely crossed by a wide band of light smoky drab, widely separating the orange-red of the nape from the bright crimson vertical patch. Other examples show a more or less complete coalescence of the two red areas, in variable degree, according to the individual. Such examples appear to include adults as well as young birds, so that age has apparently nothing to do with the variation in question. In specimens having the crimson of the crown widely separated from the more flame-colored red of the nape there is a rather close resemblance to some specimens of *C. hoffmanni*, in which, however, the abdomen is yellow instead of bright red, the outer webs of the middle tail-feathers streaked, instead of barred or spotted, and the nape decidedly red, instead of orange-yellow.

3 (?). CENTURUS RUBRIVENTRIS.

Centurus rubriventris, SWAINS. Ann. in Menag. 1838, 354 (hab. ignot.).—GRAY, Gen. B. ii, 1849, 442.—LAWR. Ann. Lyc. N. Y. ix, 1869, 206 (Yucatan).

Zebrapicus rubriventris, MALH. Mon. Pic. ii, 1862, 248; iv, 1862, pl. cvii, fig. 1 (♂ ad.). (Mexico?)

“*Zebrapicus swainsonii*, MALH. 1845, in mus Britan.” (MALHERBE.)

“*Picus aurifrons*”, BONAP. P. Z. S. 1837, 116 (nec Consp. i, 1850, 119). (*Fide* MALHERBE.) *Piczèbre à ventre sanguin*, MALH. l. c.

Hab.—Yucatan.

This bird, which appears to be a well-defined form, I have not seen, and therefore copy Swainson's original description, and Mr. Lawrence's remarks in Ann. Lyc. N. Y., ix, 1869, pp. 206-7, which, with Malherbe's

account, is all that is known regarding it. The specimen in the Smithsonian collection alluded to by Mr. Lawrence has unfortunately been mislaid, so that I am unable to make a direct comparison.

Swainson's description is as follows:—

“Front of the head, cheeks, and chin golden yellow; ears, and connected stripes over the eyes, cinereous white; nape, middle of the crown, and the belly, crimson; rump, pure white.

“Inhabits ——? Mus. Nost.

“This most elegant species is the smallest *Centurus* I have yet seen. Total length, $7\frac{8}{10}$ inches; bill, gape 1; front, $\frac{8}{10}$; wings, $4\frac{3}{10}$, nearly as long as the tail, which from the base is 3; tarsus, $\frac{6}{10}$. Upper plumage, as in the last, banded with black and white; the latter being narrower than the former; the broad grayish-white band over each eye unites in front, and there becomes white, so as to separate the golden yellow round the bill from the crimson of the crown; the yellow covers all the face before the eye, and passes round the chin; the under plumage is light cinereous gray, the middle of the body and belly being tinged with crimson; the tail-feathers are black and unspotted, except the base of the middle pair and a few spots and obsolete bands on the outermost; bill deep black.”

With regard to a specimen from Yucatan, supposed to be the same as Swainson's bird, Mr. Lawrence (*l. c.*) writes as follows:—

“A single male specimen agrees closely with Swainson's description; its validity, as a species, has been doubted by many writers, and generally referred to *C. tricolor*, though admitted to be distinct by Malherbe, and accurately figured and described in his splendid *Mon. of the Picidae*. It seems to be very rare, as Malherbe states that besides Swainson's example he only knows of the male in his own collection. With specimens before me of *C. tricolor* from Bogota, St. Martha and Panama, the distinctness of the two species does not admit of a question. As stated by Malherbe, the bands on the upper plumage of *tricolor* are twice the width of those of *rubriventris*; in the last species the transverse white lines on the back are similar to those of *C. albifrons*, while in *tricolor* they are much as in *C. aurifrons*; another marked difference is in the central tail-feathers; those of *tricolor* are deeply and broadly indented with white on both webs, whereas in the example of *rubriventris* these feathers are black, except for a small space at the base on the outer web, where it is white, this color extending higher up next the shaft. In size and general coloring the two species are much alike.

“The acquisition of this specimen is of much interest, as it helps to set at rest any doubt of its claim as a distinct species, and determines its locality heretofore unknown, though supposed to be some part of Mexico.”

4 (?). CENTURUS TERRICOLOR.

Centurus terricolor, BERLEPSCH, Ibis, Jan. 1880, 113 ("Orinoco district or Trinidad").
 "Affinis *C. tricolori* (ex Bogotá), sed major, et rostro longiore, latiore; capitis lateribus, gulá et abdomine toto obscurè brunneo-olivaceis; ventre medio obscurè rubro (nec flavo-rubro); tectricibus caudæ superioribus inferioribusque nigro regularitar fasciatis, primo viso distinguendus. Long. alæ 108, caudæ 60, rostri 24, tarsi 19."

Judging from the above description, this bird closely resembles *C. tricolor*, but is much darker colored, and with the upper tail-coverts much more distinctly and regularly barred than in that form. It is possibly a local race of *C. tricolor*.

5. CENTURUS AURIFRONS.

Picus aurifrons, WAGL. Isis, 1829, 129, 512 (♂ ad.; Mexico).—LICHT. Nomencl. 1854, 76.—SUNDEV. Consp. Pic. 1866, 53.

Centurus aurifrons, GRAY, Gen. B. ii, 1849, 442.—BONAP. Consp. i, 1850, 119.—CABAN. J. f. O. 1862, 323.—COOPER Orn. Cal. i, 1870, 399 (Texas).—COUES, Key, 1872, 196, Check List, 1873, no. 307.—B. B. & R., Hist. N. Am. B. ii, 1874, 577, pl. lii, figs. 3 and 6.—SENNETT, Bull. U. S. Geol. & Geogr. Surv. Terr. iv, no. 1, 1878, 39 (Hidalgo and Brownsville, Texas; abt.).—MERRILL, Pr. U. S. Nat. Mus. i, 1878, 151 (Ft. Brown, Texas, abt.).—RIDGW. Cat. N. Am. B. 1880, no. 373; Nom. N. A. B. 1881, no. 373.

Zebrapicus aurifrons, MALH. Mon. Pic. ii, 1862, 240; iv, pl. 104, figs. 1-3 (♂ and ♀ ad., ♂ juv.).

Centurus sublegans, BONAP. P. Z. S. Nov. 14, 1837, 109 (♂ ad.; Mexico); Consp. i, 1850, 119; Notes Delatr. 1854, 85; Consp. Zygod. 1854, no. 220 (excl. syn.).

Centurus flaviventris, SWAINS. An. in Menag. 1838, 354 (hab. ignot.; ♂ ad.).—SCL. P. Z. S. 1857, 8.—BAIRD, B. N. Am. 1858, 110; ed. 1860, pl. 42; Cat. N. Am. B. 1859, no. 92; Mex. Bound. Surv. ii, 1859, 5, pl. 4.—HEERMAN, Pacific R. R. Rep. X. c. 1859, 18.—DRESSER, Ibis, 1865, 469 (R. Grande, n. e. to Guadalupe R.; resid.).

Picus ornatus, LESS. Mag. Zool. 1839, 102 (♂ ad.).—WEIGM. Arch. für Naturg. 1841, 99.

Centurus ornatus, REICH. Handb. 1854, 410, pl. 664, figs. 4409-10.

"*Centurus elegans*", LAWR. (nec SWAINS.) Ann. Lyc. N. Y. v. Apr. 28, 1851, 116 (Texas).

"*Centurus Santa-Cruzi*," LAWR. (nec BONAP.) Ann. Lyc. N. Y. v, 1851, 123 (W. Texas).

Yellow-bellied Woodpecker, BAIRD, l. c. et AUCT.

Golden-fronted Woodpecker, COUES, l. c.

Le Piczèbre á front d'or } MALH. ll. c.
Pic-Zèbre à Front d'or }

Hab.—Table-lands of Mexico, north to the Guadalupe River in Southern Texas.

Adult ♂: Frontlet yolk-yellow; nape, bright orange-yellow, varying to orange-red in some specimens; occiput (usually) and sides of the crown ash-gray; middle of the crown covered by a patch (usually isolated) of bright crimson-scarlet; rest of the head, including a band across the forehead, dingy ashy white, or pale dingy ash, as are also the lower parts back to the flanks and abdomen; middle of the abdomen more or less deeply tinged with yolk-yellow; tibiæ and crissum grayish white, marked with irregular broad V-shaped bars of black. Back, scapulars,

wing-coverts, and upper part of rump barred, in about equal proportions, with black and white, the former predominating on the wings; secondaries black, broadly barred with white; primaries black, tipped with white, and with a somewhat broken but conspicuous patch of the same near the base, on the outer surface; upper tail-coverts and lower part of rump white, usually nearly or quite immaculate. Tail black, the inner webs of the *intermediae* usually wholly black, but very rarely (in only one among twenty-five specimens) with a slight blotching of white toward the base, and partially concealed by the coverts; outer rectrices inclining to hoary drab on the under surface, the outer webs notched with white toward the end, and the terminal portion of the inner web with one or two bars of white; next feather sometimes tipped with brownish white or light brown. *Adult* ♀: Similar to the male, but red crown-patch wanting, the whole pileum being ash-gray, lighter anteriorly. Young ♂ (not full grown): Colors much more dingy than in the adult, and all the markings less clearly defined. Pileum dull light grayish brown, the feathers somewhat mottled with dusky, passing gradually into light yellowish fulvous on the nape, the middle of the crown dull red; back washed with fulvous; breast streaked with black. (No. 45044, Laredo, Tex., July 28, 1866; H. B. Butcher.) Bill slate-black; feet dusky (olivaceous in life?). Wing, 5.20-5.65; tail, 3.40-3.75; culmen, 1.20-1.40; tarsus, 1.00.

Decidedly the largest specimen among the twenty-five before me is an adult male from Silao, Mexico (Mme. Verdey), in the collection of Messrs. Salvin and Godman. In this the red crown-patch is very large, covering the entire vertex, and anteriorly touching the orange-yellow frontlet, thus almost obliterating the usual grayish white frontal band; the nape is a deep reddish orange, more yellow below. No. 46815, from Laredo, Texas (January 16, 1867; H. B. Butcher), also has the red crown-patch very large, and the nape still more intense flame-color than the preceding; the white frontal band is well defined and complete, however, though posteriorly the red crown very nearly joins the orange-red of the nape along the middle line. No. 74677, Medina County, Texas, (April 19, 1878; G. H. Ragsdale), has the whitish frontal band broader, and the red crown much more restricted, though posteriorly it apparently does join the bright orange nape in the middle portion. In most examples, however, the red on the crown forms a thoroughly isolated patch of variable form (oval, shield-shaped, or squarish, according to the "make" of the skin), the nape bright orange-yellow, and the frontal band, of grayish white, broad and complete. In the female the yellow of the nape is usually much less intense than in the male, in one example belonging to Messrs. Salvin and Godman's collection (vicinity of Mexico City, Boncard) being of a dull oily-yellow hue.

An adult male from Texas, in Mr. Lawrence's collection, has the red of the crown completely confluent with that of the nape, exactly as in typical *santaeruzi*, except that the gray of the superciliary region en-

croaches a very little on the sides of the occiput; the deep golden yellow of the forehead is unusually extended posteriorly, leaving only a narrow bar of white between it and the red; the nape is decidedly more flame-colored than the crown, and changes quite abruptly below and along each side into olivaceous golden yellow. The lower parts are as light as in the most extreme examples of *aurifrons*, while the flanks and crissum are entirely destitute of bars, having, instead, longitudinal sagittate marks of black. The inner webs of the *intermediae* are solid black.

5a. CENTURUS AURIFRONS SANTA-CRUZI.

Centurus Santa Cruzei, BONAP. P. Z. S. Nov. 14, 1837, 116 (♂ ad.; Mexico); Consp. i, 1850, 119; Consp. Zygod. 1854, no. 221.—SCL. P. Z. S. 1856, 343; 1858, 359; 1859, 337 (Jalapa); 1860, 286, 297; 1864, 177 (city of Mexico); Catal. 1862, 343, no. 248 (S. Mexico; Salama, Guatemala).—SCL. & SALV. Ibis, 1859, 136 (Guatemala).—OWEN, Ibis, 1831, 67 (San Geronimo, Guat.; descr. eggs).

Zebrapicus santa-cruzi, MALH. Mon. Pcid. ii, 1862, 241; iv. pl. cv, figs. 4 (♂ ad.) 5 (♀ ad.).

Picus Grateloupensis, LESS. Mag. Zool. 1839, 41 (♂ ad.; Mexico).

Centurus grateloupensis, BONAP. Consp. Zygod. 1854, no. 223 (excl. syn.).

"*Picus sublegans*", LESS. Descr. d'Ois. réc. déc. 1847, 206 (nec Bonap. 1837).

Picus chrysogynus, VIG. Zool. Beechey's voy. 1840, 24.—WEIGM. Archiv. 1841, 99.

"*Centurus aurifrons*", LAW. Bull. U. S. Nat. Mus. no. 4, 1876, 35 (Chihuitan, Juchitan, and Sta. Eligenia, Isth. Tehuantepec; Nov., Jan.).

"*Centurus albifrons*", CABAN. J. f. O. 1862, 324.—SCL. & SALV. P. Z. S. 1869, 364; Nom. Neot. 1873, 100. (Probably not *Picus albifrons*, Swains., which apparently = *C. radiolatus*.)

Centurus polygrammus, CABAN. J. f. O. Sept. 1862, 326 (St. Bartolo, S. Mexico).

Le Pic de Grateloup, LESS. Rev. Zool. 1839, 41.

Le Pic subélegant, LESS. Descr. d'Ois. réc. déc. 1837, 203.

Le Piczibre de Santa-Cruz, MALH. l. c.

Hab.—Southern Mexico, Honduras, and Guatemala.

Adult ♂: Frontlet yellowish, varying from pale yolk-yellow to bright orange, with a red tinge centrally; entire crown and nape bright red, darker (deep scarlet-crimson) anteriorly, lighter and brighter on the nape, the lower part of which is more or less tinged with orange; the occiput sometimes ash-gray laterally, thus partly separating the deep red of the crown from the more orange hue of the nape; forehead and anterior part of superciliary region ashy white, forming a distinct and sharply-defined band across the former; remainder of the head light dingy ash (sometimes tinged with dingy yellow anteriorly), deepening gradually into olive-drab on the jugulum, breast, and sides; abdomen rather dull orange-yellow, in some specimens inclining to orange-red; tibiae, anal region, and crissum pale fulvous, or dingy yellowish white, thickly barred with blackish, the bars inclining to V-shape, especially on the crissum. Back, scapulars, wings, and tail black, narrowly barred, except on the primaries and tail, with white; upper tail-coverts and rump immaculate pure white, the shafts of the former brownish or dusky; primaries narrowly skirted with white beyond their emarginations, more

broadly tipped with the same, and (usually) with more or less of white spotting near the base on the outer webs; inner webs of middle pair of tail-feathers usually more or less marked with white (very rarely solid black); outer rectrices hoary drab on the under surface, the outer edge indented with small white spots, or indications of bars, the end portion of the inner webs usually with one or more white bars (sometimes with none). *Adult* ♀: Similar to the ♂, but entire pileum light ash-gray, becoming lighter anteriorly; nape varying from bright saffron-yellow to scarlet, with scarcely a tinge of orange. *Young* ♂: Similar to the adult, but all the markings much less distinct, and the colors duller. Bill black; iris bright red; feet olive-greenish. (MS. notes on labels.) Wing, 5.00-5.75; tail, 3.10-4.00; culmen, .95-1.25; tarsus, .90-1.00.

Whether the present form is to be regarded as a distinct species or not, there can be no question that it grades directly into three other forms, viz, *C. aurifrons*, *C. dubius*, and *C. hoffmanni*. In its typical condition, however, it is a very strongly characterized race. Among the large series of specimens now before me, many striking variations from the normal type are observable; some of them tending to one or the other of the above-named races, others quite unique in their characteristic features. In most of the adult males, the red of the nape is entirely continuous with that of the crown; but in some (as in No. 57834, Sta. Efígenia, Isth. Tehuantepec, Jan. 10, 1869, F. Sumichrast, and 27955, Mirador, C. Sartorius), the occiput is crossed by a band of ash-gray, almost completely separating the two bright-colored areas. In the former of the above specimens, the head is colored throughout exactly as in some examples of pure *C. aurifrons*, the nape being bright orange, markedly different from the deep red of the crown, and barely connected with it along the median line; but the lower parts are of a deep olivaceous drab, the abdomen deep saffron, and the posterior parts densely barred, as in typical *santaeruzi*. The upper parts are more broadly banded with white than in true *santaeruzi*, but less widely than in either *aurifrons* or *hoffmanni*. A near approach to the latter form is seen in the broad and distinct white bars (about 7 in number) on the inner webs of the middle rectrices, the outer webs of which are marked with a long narrow white stripe; but the size is much greater, the dimensions fully equalling the maximum of *aurifrons* (wing 5.60, tail 4.10, culmen 1.25). The Mirador specimen is evidently a young bird, and has the inner webs of the middle rectrices chiefly occupied by a large longitudinal blotch of white. Another adult male from the Isthmus of Tehuantepec (No. 57836, Chihuitan, Nov. 20, 1868, F. Sumichrast) is in all respects like the one described, except that the nape is deep orange-red, and this color more completely coalesced with the crimson of the crown. It is also equally large (wing 5.70 tail, 4.00, culmen 1.12). *C. polygrammus*, of Cabanis, appears to have been based upon specimens representing this style. Adult females from the Isthmus of Tehuantepec agree with the males in the broadness of the white bars of the dorsal surface, and the white markings of the middle

rectrices; one of them (No. 57835) has the nape bright golden yellow, the other (No. 54197, Juchitan, Sept. 8, 1868) saffron-orange. Both have the outer webs of the primaries largely blotched with white toward the base. As to the females, there appears to be no correlation between the color of the nape and the locality; those with deep red napes coming, respectively, from Baoul, Coban, and Dueñas, Guatemala, and the city of Mexico, those with orange napes from Eastern Mexico (Jalapa and Mirador), Guatemala (Retaluleu), and Western Mexico. Two examples from Honduras, in the collection of Messrs. Salvin and Godman, are remarkable chiefly for their small size. The male (San Pedro, G. M. Whitely) is very intensely colored, the white bars of the dorsal region narrower than in any skins from Guatemala or Mexico, and very strongly tinged with fulvous, the lateral and lower portions of the head deep olive-drab, in marked contrast with the white frontal crescent, the white of the rump stained with fulvous-yellow, and the lower parts much deeper olivaceous than other specimens; the inner webs of the middle rectrices are solid black. The measurements of this specimen are as follows: Wing, 5.00; tail, 3.30; culmen, 1.15; and tarsus, .88. The female (Julian, G. M. Whitely) is of abnormally small dimensions, measuring, wing, 4.60; tail, 2.90; culmen, .95; tarsus, .80. It appears, however, to be an immature bird, and may not have attained its full size. In colors, it is very dark, like the male from San Pedro.

It is not uncommon for very highly-colored examples to have the white of the rump and upper tail-coverts more or less tinged with yellow.

5b. CENTURUS AURIFRONS DUBIUS.

"*Picus carolinus*", CABOT (nec LINN.), App. Stephens' Trav. ii., —, 475. (Uxmal, Yucatan.)

Picus dubius, CABOT, Jour. Bost. Soc. N. H. v, 1845, 91. (Uxmal, Yucatan.)

Picus erythrophthalmus, LICHT. "Cat. MSS. Mus. Berol. 1844"; Nomencl. 1854, 76.—REICH. Handb. Oct. 1854, 409, tab. 664, figs. 4396-7 (♂, ♀ ad.).

"*Zebrapicus erythrophthalmus* (Licht.)" MALH. Mon. Picid. ii, 1862, 243; iv, pl. cv, figs. 1-3.

"*Centurus albifrons* (Sw.)", LAWR. Ann. Lyc. N. Y. ix, 1869, 205. (Yucatan.)

"*Picus capistratus*, LICHT. Mus. Berol. 1841, nec NATTER." (MALHERBE.)

Piezèbre aux yeux rouges, MALH. l. c.

Adult ♂: Entire pileum and nape bright crimson-scarlet (much as in *C. carolinus*), without a trace of orange tinge; frontlet scarlet, separated from the deeper red of the crown by a narrow band of dull, smoky white, or grayish white (sometimes nearly pure white), across the forehead; rest of head and neck light ashy drab, approaching smoky grayish white, deepening on the jugulum, breast, sides, flanks, and upper part of abdomen into light olive-drab, or smoky gray; middle of abdomen bright scarlet, usually without trace of orange tinge; tibiae, anal region, and crissum, grayish white, thickly marked with V-shaped bars of black. Back, scapulars, wing-coverts, and upper part of rump black, with sharply-defined narrow bars of white, much narrower than

the black bars (averaging about half as wide); secondaries narrowly barred with white; primaries black, margined terminally with white, and with a few irregular spots of the same near base of outer webs; upper tail-coverts and rump immaculate pure white. Tail deep black, the under surface hoary drab, and the lateral pair of feathers sometimes showing indications of narrow white bars near the end. *Adult* ♀: Similar, but the whole crown light drab-gray, becoming lighter anteriorly (nearly white on the forehead). Bill slate-black; feet dusky (olivaceous in life?). Wing, 4.95-5.40; tail, 3.40-3.80; culmen, 1.00-1.30; tarsus, .90-.95.

This form is evidently most closely related to *C. santaeruzi*, but it may be immediately distinguished, in its typical condition, by the entire absence of even the slightest trace of orange in the red of the nape, while the frontlet and abdomen are a pure deep scarlet, instead of orange-yellow. In other respects, however, there is a very close correspondence in all the colors and markings, even to a minute degree, almost the only difference consisting in the white bars of the dorsal surface being still narrower. In the red abdomen, and pure red pileum, nape, and frontlet, there is a closer resemblance to *C. carolinus* than to *C. santaeruzi*, but the red of all the parts named is more intense, while the forehead is invariably crossed by a sharply-defined band of nearly pure white. In other respects the two are very different, *C. carolinus* having the white bars on the back, etc., about three times as wide, the upper tail-coverts varied with black, the middle tail-feathers largely varied with white, etc. Comparing the females of the two species, the present one has the crown an altogether lighter gray, and the red of the nape and frontlet much more intense—the latter also more abruptly defined.

It is not to be supposed, however, that the characters of this form, as given above, are absolutely constant, for this is not the case; on the contrary, specimens now before me plainly indicate, if they do not actually prove, intergradation with *C. santaeruzi*. Specimens from northern Yucatan are, so far as I have seen, purely typical; but an adult male in Mr. Lawrence's collection, *said* to be from Guatemala, has the red of the belly decidedly lighter and more flame-colored than in Yucatan examples, while an adult female from Orizaba agrees with it in this respect. The former, moreover, has the inner webs of the middle pair of rectrices deeply notched with white, while the latter has a considerable quantity of white blotching on the inner webs of the same feathers, the outer webs of which are marked, on their basal half, with a conspicuous longitudinal stripe of white, mostly concealed, however, by the upper coverts. In this example, the white bars above are broader (about as in average specimens of *santaeruzi*), while the dark bars of the flanks and crissum, as well as the white ones of the terminal portion of lateral rectrices, are much broader than usual.

The type of *Picus dubius*, Cabot, which has been kindly loaned me by its describer, is a fully adult male agreeing in all respects with other specimens from northern Yucatan.

5e. CENTURUS AURIFRONS HOFFMANNI.

Centurus hoffmannii, CABAN. J. f. O. x, 1862, 322 (Costa Rica).—LAWR. Ann. Lyc. N. Y. ix
1863, 131 (San José and Grecia, Costa Rica).—SCL. & SALV. Nom. Neotr. 1873,
100 (Costa Rica).

Picus hoffmanni, SUNDEV. Consp. Pic. 1836, 54.

Centurus aurifrons var. *hoffmanni*, B. B. & R. Hist. N. Am. B. ii, 1874, 554.

Hab.—Costa Rica.

Adult ♂: Frontlet, pale dull yellow; forehead and anterior part of superciliary region, dull whitish; crown crimson-scarlet; nape saffron-yellow, varying to orange, sometimes tinged with orange-red; remainder of the head deep smoky gray (lighter anteriorly and underneath), the lower parts similar, but darker; abdomen deep saffron-yellow; tibiae, anal region, and crissum heavily barred with black, the bars on the latter more V-shaped. Back, scapulars, and wing-coverts broadly barred with black and white, the two colors in about equal proportion on the dorsal region, the black in excess on the wings, the white bars on the secondaries being only about half as wide as the interspaces; primaries black, the outer webs tipped with white and usually spotted with the same near the base; upper tail-coverts and lower rump immaculate white, usually faintly tinged with yellow; tail black, the inner webs of the *intermediae* edged with white and deeply indented with broad bars of the same, the outer webs with a narrow longitudinal stripe of white; lateral rectrices hoary drab on the under surface, margined terminally with dull white, the outer web notched along the edge, near the end, with the same, and the terminal portion of the inner web sometimes with one or more indications of white bars. *Adult* ♀: Similar to the ♂, but crown without any red, and yellow of the nape duller and (usually at least) without orange tinge. Bill black; iris hazel (MS. note on label of ♀ ad.); feet dusky (olivaceous in life?). Wing, 4.60–4.75; tail, 2.40–2.90; culmen, .90–1.05; tarsus, .75–.80.

This form presents a curious combination of the features of *C. aurifrons* and *C. santaeruzi* with characteristics which are its own. The plumage of the upper parts is exactly that of the former, except that the occiput and sides of the crown are of a decidedly more smoky hue, while the inner webs of the middle tail-feathers are invariably largely marked with white, as described above. The plumage of the lower parts, however, is even darker than in *santaeruzi*, though the posterior portions are more coarsely barred, as in *aurifrons*. The peculiar features consist in the small size, and constancy of the white markings on the middle tail-feathers, which is only an occasional feature in *santaeruzi* and apparently never occurs in true *aurifrons*.

6. CENTURUS RADIOLATUS.

Picus varius medius jamaicensis, RAY, Syn. av. 181, no. 11.

Picus jamaicensis, EDW. Gleanings, pl. 244 (♂ ad.).

Pic varié Femelle, de la Jamaïque, BUFF. Pl. Enl. 597 (♂ ad.).

Picus carolinus, part, LINN. S. N. i ed. 12, 1763, 175 (quotes, "*Picus varius medius*, Sloan jam. 2, p. 299, t. 255. *Picus varius jamaicensis*, Briss. av. 4, p. 59. *Picus jamaicensis*, Edw. av. 5, p. 71, t. 244."—Not of ed. 10, 1758, 113, which is based entirely on Catesby).

Picus radiolatus, WAGLER, Syst. Av. 1827, *Picus*, no. 39 (♂ ad.; Jamaica); Isis, 1829, 572.

Centurus radiolatus, BONAP. Consp. i, 1850, 118; Consp. Zygod. 1854, no. 215.—GOSSE, B. Jam. 1847, 271.—REICH. Handb. 1854, 409, no. 961, pl. delxiii, fig. 4406 (♂ ad.).—SCL. P. Z. S. 1861, 79; Catal. 1862, 343, no. 2046.—MARCH, Proc. Philad. Acad. 1863, 284.—SCL. & SALV. Nom. Neotr. 1873, 100 (Jamaica).

Zebropicus radiolatus, MALH. Mon. Pic. ii, 1862, 237; iv, pl. civ, figs. 5 (♂ ad.) 6 (♀ ad.)

? *Picus albifrons*, SWAINS. Philos. Mag. i, 1827, 439 (♂ ad.; "Table-lands of Mexico"—error*).—WAGL. Isis, 1829, 514.—LESS. Compl. Buff. ix, 1837, 318.

Picus larratus, TEMM. Pl. Col. livr. 73^e, 1833, in text, sub *P. superciliaris*.

Le Pizèbre de la Jamaïque, MALH. l. c.

The Woodpecker of Jamaica, EDWARDS, l. c.

Radiolated Woodpecker, GOSSE, l. c.

Le front blanc, LESS. l. c.

Hab.—Jamaica only.

Adult ♂: Pileum and nape bright scarlet-crimson, darkest on the crown; remainder of the head, including forehead, lores, and superciliary stripe, soiled white, changing quite abruptly to smoky drab next to the red of occiput and nape, and on the jugulum, the breast, sides, and abdomen uniform deep olivaceous (slaty plumbeous beneath the surface), and with a deep golden-ochraceous wash in some examples; middle of the abdomen deeply tinged with saffron-red, the tibiæ tinged with the same, and indistinctly barred with grayish dusky and dull whitish; crissum black, narrowly and rather distantly barred with dingy white. Upper parts black, relieved by very narrow thread-like bars of white, these widest apart on wings; upper tail-coverts and lower part of rump also black, crossed by broader and more distinct bars of white; tail deep black, the inner webs of middle pair of feathers (sometimes outer webs also) marked with narrow white bars. *Adult* ♀: Similar, but crown and upper part of occiput smoky gray, and the white of the anterior portion of the head more obscured, or dingy. Bill black; feet

* "Above blackish, transversely marked with white lines, beneath olivaceous; front, chin, and sides of the head white; crown and neck red.

"Table land; rare.

"Total length, 10½; bill, 1⁵/₁₀; wings, 5; tail, 4."

This bird has usually been referred to one or another of the forms of *C. aurifrons*. Judging from the above description, however, and especially by Bonaparte's comments in P. Z. S. 1837, p. 116, it seems more probable that the present species was the one Swainson had in view, there being at least one other West Indian bird in the same collection erroneously ascribed a Mexican habitat (*Tyrannula barbirostris*, also from Jamaica).

dusky. *Young* ♀: Similar to the adult, but with red feathers on the middle of the crown. Wing, 5.00–5.40; tail, 3.70–4.30; culmen, 1.30–1.45.

The only species bearing any resemblance to the present one is *C. santacruxi*, which, however, besides being very much smaller, has the upper tail-coverts and lower rump immaculate white, the frontlet golden-yellow or orange, the lower parts much paler, and the white bars of the upper surface much broader. With the exception of *C. superciliaris* (of Cuba), it is the largest member of the genus, and in the decided predominance of black on the rump and lower tail-coverts is entirely peculiar.

7. CENTURUS UROPYGIALIS.

Centurus uropygialis, BAIRD, Proc. Philad. Acad. vii, June, 1854, 120 (Bill Williams' River, Arizona); B. N. Am. 1858, 111; ed. 1860, pl. 36; Cat. N. Am. B. 1859, no. 93.—REICH. Handb. 1854, 310.—CABAN., J. f. O. 1862, 330 (northern Mexico).—KENNERLY, Pacific R. R. Rep. x, b. 1859, pl. 35.—HEERM. ib. x, c. 1859, 17.—SUNDEVAL, Consp. Pic. 1866, 54.—COUES, Proc. Philad. Acad. 1866, 57 (S. Arizona); Key, 1872, 196; Check List, 1873, no. 308.—COOPER, Orn. Cal. i, 1870, 399 (Ft. Mojave).—B. B. & R. Hist. N. Am. B. ii, 1874, 558, pl. lii, figs. 2 and 3.—RIDGW. Cat. N. Am. B. 1880, no. 374; Nomencl. N. Am. B. 1881, no. 374.

Centurus sulphureicenter, REICH. Handb. Oct. 1854, 410, pl. delxiv, figs. 4411–12 (♂ & ♀ ad.).

Zbrapicus kaupii, MALH. Mon. Pic. ii, 1862, 245; iv, 1862, pl. cvi, figs. 4, 5 (♂ and ♀ ad.).*

"*Centurus hypopolius*", PUCH. Rev. et Mag. Zool. 1853, 163 (nec LICHT., ex WAGL.). *Le Piczibre de Kaup*, MALH. l. c.

Gila Woodpecker, BAIRD, l. c.

Hab.—Western Mexico, extending into Arizona (as far as the Gila Valley), southeastern California, and western New Mexico; Lower California.

Adult ♂: Head, neck, and lower parts soft, rather light smoky drab, usually deepest on the nape and paler on the forehead; middle of the abdomen pale yolk-yellow, in some specimens inclining to buff; a patch of scarlet-erimson on the middle of the crown; tibiae and crissum white, broadly barred with black. Back and scapulars broadly and regularly barred with black and white, in about equal proportion; wings black, the coverts and secondaries broadly and sharply barred with pure white; primaries tipped with white, largely blotched with the same near the base, the longer quills narrowly edged with white beyond their emarginations; rump and upper tail-coverts white, regularly barred with black; tail black, the inner webs of the *intermediae* white, broadly barred with black, the outer webs with a stripe of white extending the

* Malherbe claims (Mon. Pic. ii, p. 245, foot-note) 1853 as the date of his specific name "*kaupii*", on the ground that Bonaparte instituted the name "en effet" by dedicating it, in the *Revue et Magazin de Zoologie* for that year, to "au savant directeur de Musée de Darmstadt". Inasmuch, however, as not even Dr. Kaup's name was given in the passage quoted as evidence, it will readily appear that Professor Baird's specific term *uropygialis* was really the first proposed.

greater length of the feathers; outer pair of rectrices broadly barred with white for at least the terminal half (sometimes the whole length), and next pair with several broad bars across the terminal portion. *Adult* ♀: Similar to the ♂, but without the red crown patch. Wing, 5.00–5.30; tail, 3.50–3.90; culmen, .95–1.25; tarsus, .90–.95.

This is the only species of the genus in which the female has neither red nor yellow anywhere about the head or neck, and in which the lateral tail-feathers are banded for the greater part of their length, and the upper tail-coverts transversely barred.

Among thirteen adult males now before me I find considerable variation, which, however, affects chiefly the color of the nape, the exact shade of color pervading the head and lower parts, and the size and shape of the red crown-spot. In two specimens (76735, Fort Yuma, Dr. A. L. Heermann, and 49689, Camp Grant, Arizona, March 20, 1867, Dr. E. Palmer), the nape inclines very strongly to a light fulvous-buff, strikingly different in color from the occiput, sides of the crown, etc. Usually the nape is similar in tint to the breast, but of a decidedly darker shade, this being particularly the rule in fall specimens, in which the colors are darker and the texture of the feathers softer than in spring and summer. The exact tint varies greatly, however, the darkest example (No. 67153, Pueblo Viejo, New Mexico, September 19, 1873, C. J. Newberry), having the nape a deep sepia-drab, while in the lightest (No. 6129, Camp Yuma, California, A. Schott), it is a light ochraceous-buff, the lower parts being also much paler than usual. Summer specimens, having the plumage more worn and bleached than those killed in the fall or winter, are of course paler colored. The exact shape and extent of the red crown-patch vary greatly in different examples, but this may be owing in a great measure to the "make" of the skin.

8. CENTURUS HYPOPOLIUS.

Picus hypopolius, WAGL. Isis, 1829, 514.

Zebropicus hypopolius, MALH. Mém. Ac. Metz, 1848-'9, 361; Mon. Pic. ii, 1862, 228; iv, pl. 103, figs. 4, 5 (♂ and ♀ ad.).

Centurus hypopolius, LICHT. Nomencl. 1854, 76.—REICHL. Handb. 1854, 410, pl. 665, figs. 4413–14 (♂ & ♀ ad.).—LAWR. Bull. U. S. Nat. Mus. no. 4, 1876, 35 (Chapulco, Pueblo).

Picizèbre alezan cendré, MALH. ll. c.

Hab.—Southern Mexico.

Adult ♂: Head, neck, and lower parts, back to flanks and anal region, deep smoky gray, or purplish drab, darkest on the head above, and nape; forehead, chin, and throat lighter, the first inclining to soiled white; eyelids surrounded by a blue-black circle, separated posteriorly by white on the upper eyelid; crown with a quadrate patch of crimson, and lower part of auriculars tinged with the same. Back and scapulars barred with glossy black and brownish white, wing-coverts and secondaries barred with purer white, the white bars broader on

the secondaries and outer greater coverts; primaries black (without white on outer webs, except at extreme base of the inner quills, and a very narrow edging to the outer quills), but each bordered terminally with white. Rump and upper tail-coverts white, marked longitudinally with black. Tail black, the inner webs of the *intermedia* partly white, this crossed by oblique bars of black; lateral tail-feathers barred at ends and on outer webs with white, the next pair with incomplete bars, at end only. Lower part of abdomen, anal region, flanks, and crissum, soiled white, the flanks transversely spotted, or irregularly barred with black, the crissum with irregular V-shaped marks of the same; anal region with smaller, nearly obsolete spots. *Adult* ♀: Similar to the ♂, but lacking the crimson crown-patch. Wing, 4.90–5.00; tail, 3.70; culmen, .85–.90; tarsus, .80. “Iris brown; bill blackish; feet ashy-blue.” (SUMICHRAST, MS.)

This species is very peculiar in its coloration, and needs no comparison with any other. Its nearest ally is perhaps *C. elegans*, with which it agrees in the dark color of the breast and the black surrounding the eyes, although *C. uropygialis* is about equally related, in the uniform brown color of the nape, and the squarish crimson spot ornamenting the pileum of the male alone. It is a much smaller and decidedly more delicate species than either of those named, however, and differs widely in other characters of plumage. The absence of any red or yellow tinge on the abdomen, and the *longitudinal* markings of the rump and upper tail-coverts, which characterize this species, are unique features in this genus.

Of the single pair of specimens which I have been able to examine, the female (E. Mus. Salv.-Godm. “Mexico; ex Darmstadt Mus.”) differs from the male (Mus. Salv.-Godm. “Valley of Mexico; H. S. Le Strange”), besides in the absence of the red coronal patch, in having much narrower and sparser streaks of black on the rump and upper tail-coverts, and in having the white spots on the outer greater wing-coverts larger, or even so nearly coalesced as to form a broken longitudinal patch.

9. CENTURUS ELEGANS.

Picus elegans, SWAINS. Philos. Mag. 1827, 439 (♂ ad.; “maritime land” of Mexico).—

LESS. Compl. Buff. ix, 1837, 318.—FINSCH, Abh. Nat. Brem. 1870, 356 (Mazatlan).

Centurus elegans, GRAY, Gen. B. ii, 1849, 442.—BONAP. Consp. i, 1850, 119; Consp. Zygod. 1854, no. 219.—REICH. Handb. 1854, 411.—SCL. Catal. 1862, 342, no. 2043 (Mexico); P. Z. S. 1864, 177 (city of Mexico).—SCL. & SALV. Nom. Neotr. 1873, 101 (Mexico).—LAWR. Mem. Boston Soc. ii, pt. iii, no. ii, 1874, 29† (Mazatlan, Guadalajara, Tepic, and Sonora; habits).

Zebropicus elegans, MALH. Mon. Pic. ii, 1862, 225; iv, 1862, pl. 102, figs. 5, 6 (♂, ♀ ad.).

Pic-cibre élégant, MALH. ll. c.

Hab.—Western Mexico.

Adult ♂: Crown and occiput scarlet-crimson; nape bright orange-yellow, sometimes abruptly defined against the red, often grading in

sensibly into it; bare orbital space surrounded by black, this much broadest above the eye, where forming a large longitudinal patch, widest posteriorly, on each side of the red crown; remainder of the head smoky olive-gray, lighter on the forehead, the frontlet, cheeks, and chin more or less strongly washed with golden yellow; throat, jugulum, breast, sides, and upper part of abdomen, uniform smoky gray; middle of the abdomen stained, more or less deeply, with golden yellow; tibiae, anal region, and crissum thickly marked with V-shaped bars of black. Upper parts sharply, and rather broadly, barred with black and white, the bars of the two colors nearly equal in width; primaries black, bordered terminally with white, and marked at the base (of outer webs) with large blotches of the same; primary coverts uniform black; lower rump and upper tail-coverts white, with rather distant broad bars of black. Tail black, the *intermediae* broadly barred, on both webs, with white; lateral pair of rectrices distinctly barred on both webs, to the base, with white, the bars not touching the shaft, however, except near the end of the feather; next tail-feather usually barred on the inner web only, the next two wholly black or with mere indications of bars. *Adult* ♀: No red on the crown or occiput, which are uniform ash-gray, the occiput sometimes (but rarely) blackish, in consequence of the coalescence of the black supraocular patches. *Young* ♂: Similar to the adult, but colors of the head less brilliant, and all the markings of the plumage less sharply defined; light bars of the dorsal region obscured by an olivaceous wash. Wing, 4.50-4.90; tail, 3.10-3.60; culmen, .95-1.10; tarsus, .85-.90.

In this handsome species there is rather an unusual amount of individual variation. In the adult males, the bright Indian-yellow of the nape is usually quite distinctly defined against the red of the occiput and crown; but in one (No. 26991, Mazatlan), only the lower margin of the nape is yellow, the rest being bright red, like the occiput. In this example the frontlet, chin, cheeks, and auriculars are a bright golden yellow, while the jugulum and breast are darker and more olivaceous than in others. In the adult females the red of the crown and occiput is usually wholly replaced by uniform rather light brownish gray; but sometimes (as in No. 23817, Mazatlan, J. Xantus), the whole occiput is black, while it is not unfrequently spotted with this color. Furthermore, in this example, also in two others (Nos. 23752 and 39977, Mazatlan), the nape is intense orange-red with merely a lower border of yellow.

10. CENTURUS SUPERCILIARIS.

Picus superciliaris, TEMM. Pl. Col. iv, 1838, 433 (♂ ad.).—Cuv. Règ. An. ed. 1829, 451.—WAGL. Isis, 1829, 515.—LESS. Traité, 1831, 227; Compl. Buff. ix, 1837, 324.—DRAP. Diet. Class. xiii, —, 506.—THEINEM. J. f. O. 1857, 153.

Colaptes superciliaris, VIG. Zool. Jour. iii, 1827, 445.—D'ORB. La Sagra's Cuba, Ois. 1839, 146, pl. 23 (albinotic ♀ ad.).

Colaptes superciliosus, GRAY, Gen. B. ii, 1849, 446.

Centurus superciliaris, BONAP. Consp. i, 1850, 118; Consp. Zygod. 1854, no. 214.—REICII. Handb. 1854, 408, pl. 632, figs. 4400 (♂ ad.) 4401 (albinotic ♀ ad.).—GUNDL. J. f. O. 1856, 103; Repert. i, 1863, 294.—SCL. Catal. 1862, 342, no. 2042 (Cuba).—SCL. & SALV. Nom. Neotr. 1873, 101 (Cuba).

Zebrapicus superciliaris, MALH. Mem. Ac. Metz, 1848-9, 361; Mon. Pic. ii, 1862, 223; iv, 1862, pl. 102, figs. 1 (♂ ad.), 2 (♀ ad.), 3 (♀ ad., alb.).

“*Picus subocularis*, LESS, Discr. d’Ois. réc. découv. 1847, p. 205, no. 33, le mâle”. (*Malherbe*.)

Pic sourcil noir, TEMM. l. c.

Pic à sourcils noirs, LESS. l. c.

Colaptes à sourcils noirs, D’ORB. l. c.

Le Pic à plaque noire, LESS. Descr. d’Ois. réc. déc.

Carpintero jabado } VULG.

Carpintero común }

Le Piezèbre sourcil noir ou superciliare } MALH. ll. c.

Pic-zèbre superciliare }

Hab.—Cuba.

Adult ♂: Crown, occiput, and nape bright scarlet-crimson, darker anteriorly; frontal feathers, on each side of the base of the culmen, reddish (usually deeply red, occasionally merely stained with this color); a large longitudinal patch of black on each side of the crimson crown, the lower edge bordering the bare orbital space, and extending from the anterior angle of the eye back as far as the occiput; remainder of the head dull whitish, including a distinct and usually broad band across the forehead; white purest on auriculars and forehead, more tinged with light buffy-gray on the throat, this changing gradually to a deeper shade of the same on jugulum, the breast, sides, and abdomen deeply buffy drab, tinged with golden buff posteriorly; middle of the abdomen bright red; flanks, tibiæ, anal region, and crissum varied with V-shaped marks of black. Back, scapulars, and wings broadly barred with black and white, the dorsal region strongly washed with buff yellow; rump and upper tail-coverts white, often tinged with pink and buff yellow, the former with transverse bars, the latter with V-shaped marks of black; tail black, the inner webs of the *intermedia* white, with broad, rather oblique, bars of black, the outer webs with a longitudinal stripe of white, narrow and pointed posteriorly, often barred with black anteriorly; lateral pair of rectrices marked with broad bars, or transverse spots, of white, not touching the shaft except the terminal and (rarely) the sub-terminal spots; inner webs with one or two broad bars of white near the end. Primaries black, the outer webs blotched with white near the base. *Adult* ♀: Similar to the ♂, but anterior part of the crown white, like the forehead, the occiput and posterior part of the crown black, this confluent with the black superciliary patches; bill blackish; feet olivaceous dusky. Wing, 5.40-6.00; tail, 4.50-4.80; culmen, 1.30-1.65; tarsus, 1.00-1.10.

The unique characters of this very distinct species consist in the large size (largest in the genus), superciliary black patches combined with

scarlet nape and red frontlet; equal width of the light and dark bars of the upper surface (in this respect most resembling *C. carolinus*), and the distinct buff-yellow wash which pervades the dorsal region.

11. CENTURUS STRIATUS.

Picus dominicensis striatus, BRISS. Orn. iv, 1760, 65, pl. iv, fig. 1 (♂ ad.).

Picus dominicensis striatus minor, BRISS. t. c. 67, pl. iii, fig. 2 (♀ ad.).

Picus striatus MÜLL. S. N. Suppl. 1776.—BODD. Tabl. P. E. 1783 (ex Pl. Enl. 281, 614).—GMEL. S. N. i, 1788, 427.—LATH. Ind. Orn. i, 1790, 238.—VALENC. Dict. Sc. Nat. xl, —, 173 (♀).—VIEILL. Ois. Am. Sept. ii. 1807, pl. 114 (♂ ad.); Nouv. Dict. xxvi, 1818, 90; Enc. Méth. 1823, 1316.—CUV. Règ. An. i, 1829, 451.—DRAP. Dict. Class. xiii, —, 505.—WAGL. Syst. Av. 1827, no. 40 (♂ & ♀).—LESS. Traité, 1831, 227; Compl. Buff. ix, 1837, 324.—BRYANT, Pr. Boston Soc. xi, 1866, 93 (St. Domingo).

Centurus striatus, GRAY, Gen. B. ii, 1849, 442.—BP. Consp. i, 1850, 119 (♀); Consp. Zygod. 1854, no. 216.—REICH. Handb. 1854, 409, pl. delxiii, figs. 4404-75 (♀).—SCL. & SALV. Nom. Neotr. 1873, 100 (Hayti).

Zebrapiens striatus, MALH. Mon. Pic. ii, 1862, 231; iv. pl. cvii, figs. 3, 4, 5 (♂ & ♀ ad.).

Le Pic rayé de St. Domingue, BRISS. Orn. iv, 1760, 65, pl. 4, fig. 1 (♂ ad.).

Le petit Pic rayé de St. Domingue, BRISS. t. c. 67, pl. 3, fig. 2 (♀ ad.).

Pic rayé, de St. Domingue, BUFF. Pl. Enl. 281 (♂ ad.).

Pic rayé à tête noir de St. Domingue, BUFF. Pl. Enl. 614 (♀ ad.).

Le Pic rayé, VIEILL. Il. c.—VALENC. l. c.—LESS. l. c.

Picizèbre rayé ou de Saint-Domingue, MALH. l. c.

Hab.—Island of St. Domingo or Hayti, only.

Adult ♂: Crown, occiput, nape, lower part of rump, and upper tail-coverts deep blood-red or scarlet-crimson, the red of the nape extending over the sides of the neck to a point immediately behind the auriculars; sides of the neck below this with two longitudinal stripes of dingy white, separated by a black one of about equal width; the posterior white stripes of opposite sides separated by a black space on the extreme lower part of the nape. Remainder of the head, smoky gray, gradually becoming smoky drab or brown on the jugulum and breast, this in turn passing gradually into light yellowish olive-green on the abdomen, anal region, crissum, sides, and flanks, all of which are immaculate.* Back, scapulars, and upper part of rump sharply banded with deep black and bright yellowish olive-green, the black bars broadest, except on the rump. Wings black, the coverts banded with greenish buff, the secondaries with golden buff; outer webs of primaries spotted with pale buff. Tail uniform black, the lower surface dull hoary olivaceous. Bill plumbeous-dusky, the mandible paler (probably bluish white in life); feet olivaceous or plumbeous. ♀: Similar, but crown deep black, the red of the head and neck being confined to lower part of occiput and upper half of nape. Wing, 4.30–5.20; tail, 3.35–4.10; culmen, 1.00–1.30; tarsus, .90–1.00.

This is the only *Centurus* having red on the rump or upper tail-coverts,

* In some examples the lower tail-coverts have indistinct dusky shaft-streaks.

and the only one, excepting *C. hypopolius*, without a decided red or yellow wash on the middle of the abdomen. In the bright yellow-green color of the lighter bars of the mantle, and in the longitudinal black and white stripes of the lower hind-neck, it is entirely peculiar in the genus; but in all the essentials of form, as well as the general style of coloration, it is a true *Centurus*.

APPENDIX.

In addition to the species given in the above synopsis, Malherbe, in his *Monographie des Picidées* (ii, 1862), gives, besides *Melanerpes pucherani*, which he includes in this genus, two additional species of "*Zebrapicus*," viz: "*Z. gerinii* (Temm.);" and "*Z. aurocapillus* (Vig.);" They may or may not belong to the genus *Centurus*, in the restricted sense; and since I know nothing of either from antoptical acquaintance, I transcribe below Malherbe's account of each in full, as embodying all that is known regarding these doubtful species.

ZEBRAPICUS GERINII (Temm.).

Picus varius indicus; GÉRIN, *Ornith.*, ii, p. 48, pl. 171.

Picus carolinus, VAR. D; LATH., *Ind orn.*, i, p. 231, *spec.* 18.

Picus gerinii; TEMM., pl. color., 73^e livr., article du *P. superciliaris*.

MAS ADUL.—Albo nigroque supra variolosus; pileo, nuchâ abdomineque coccineis; fronte colloque subtùs ilavo-griseis; lineâ nigrâ a naribus per oculos ad humeros ntriunque ductâ; tergo et uropygio ferè totis albis; remigibus rectricibusque nigris

LE PICZÈBRE DE GÉRIN.

"Cette espèce, que nous ne connaissons que par la description qu'en donne Gérin et que reproduit Latham, tout en faisant une variété du *Zebrapicus carolinus*, m'aurait paru être le Piczèbre capistrate de M. Lichtenstein, si Gérin n'annonçait pas qu'une *bande noire descend des narines jusqu'aux épaules, en passant sur les yeux*. Ce caractère rapproche donc ce Piczèbre de *l'elegans* de Swainson, du *superciliaris*, de *l'hypopolius* et de mon *pucherani*, qui, tous, ont les yeux entourés de noir.

"M. Temminck nomme seulement ce grimpeur dans son article sur le *superciliaris* (pl. col. 433); mais il paraît ne l'avoir jamais observé et ne le connaître que par la description de Gérin.

"Nous n'avons aucun renseignement sur *l'habitat* précis de cet oiseau américain.

"*Coloration*.—*Le male*, d'après Gérin et Latham, a les parties supérieures rayées transversalement de noir et de blanc; le dessus de la tête, la nuque et le milieu de l'abdomen, sont rouges; le front et le dessous du cou sont d'un gris jaunâtre, une bande noire s'étend de chaque côte du cou, à partir des narines jusqu'aux épaules et en couvrant les yeux; les rémiges et les rectrices sont noires; le milieu du dos et le cropion sont presque entièrement blancs.

"*La femelle* n'a pas été décrite par les auteurs.

“*Habite l’Amérique, sans pouvoir indiquer dans quelle contrée, probablement le Mexique ou l’Amérique centrale.*

“*Dimensions.*—Gérin et Latham n’ont indiqué les dimensions même approximatives de cette espèce, qui semble se rapprocher pour la taille du *Zebrapicus carolinus*, puisque Latham en fait une variété.

“On ignore ce qu’est devenu l’exemplaire décrit par Gérin et Latham.”

ZEBRAPICUS AUROCAPILLUS (Vig.).

Picus aurocapillus; VIG. *Proceed. Zool. Soc. Lond.*, 1832, p. 4.—LESS., *Compl. Buff.*, ix, p. 315.

Picus aurocapillus; GAY ex VIG., *Hist. fis. de Chile*, 1847; *Zool.* p. 373.

FEMINA? Supra ater, albo fasciatus maculatusque; striga lata supra oculos ad humeros extendente, alteraque suboculare interrupta, gulâque albis; pectore abdomineque sordidè albescentibus, strigis parvis fuscis notatis; capite atro; fronte aureo strigatim notato, vertice aureo.

LE PICZÈBRE A TÊTE DORÉE.

Pic a tête dorée; LESS., *Compl. Buff.*, ix, p. 315.

“Cette espèce, du Mexique, ne nous est connue que par la description qu’en donne M. Vigors dans les *Proceedings of the Zoological Society of London*, et je ne l’ai observée dans aucune collection d’Europe. Je dois ajouter que je ne suis pas même certain, quoique cela soit probable, que cette espèce appartienne au groupe dans lequel j’ai cru devoir la faire figurer, en égard à sa coloration, la description de l’auteur anglais étant très-sommaire. Ce grimpeur est plus petit que notre *Z. pucherani*, dont il diffère surtout par l’absence de rouge sur la tête et sur l’abdomen.

“Je suis très-porté à croire que le sujet décrit par M. Vigors était une femelle, et que l’espèce ne se trouve point au Chili, comme en doute aussi M. Gay, tout en la décrivant d’après Vigors.

“*La femelle?* Corps noir au-dessus, tacheté et rayé transversalement de blanc; audessus des yeux, une large bandelette blanche qui s’étend jusqu’aux épaules, et une seconde interrompue, de même couleur, sous les yeux; la gorge est aussi de cette dernière couleur; le thorax et le ventre sont d’un blanchâtre sale avec quelques stries brunes; la tête est noire avec des rayures jaunes sur le front, et le sommet de la tête jaune d’or.

“*Habite le Mexique.*

“*Dimensions.*—Longueur totale, 165 millimètres (les autres dimensions ne sont pas indiquées).

“Cette espèce figurait dans la collection de M. Cuming, que je n’ai malheureusement pu examiner, et ce dernier l’avait reçue du Mexique.”

SMITHSONIAN INSTITUTION,

January, 1881.