

SOME BIRDS OF ARIZONA.

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ZONE-TAILED HAWK. *Buteo abbreviatus* CABAN.MEXICAN BLACK HAWK. *Urubitinga anthracina* (LICHT.)
LAFR.)

MY apology for associating the histories of two birds belonging to widely different genera is that much doubt and some confusion exists in the minds of ornithologists concerning the identity and status as North American birds of the two species under consideration.

The first notice of the Zone-tailed Hawk was from the pen of Cabanis, in 1848.* It was described and figured by Sclater, in 1858, as *Buteo zonocercus*, which name continued in vogue until Sharpe† reverted to Cabanis's original *B. abbreviatus*; and Mr. D. G. Elliot subsequently gave a handsome figure of it in his 'Illustrations of Birds of North America'. It was first taken within the United States by Dr. J. G. Cooper, who shot the specimen described in his 'Birds of California,' on the 23d of February, 1862, thirty miles north of San Diego, California, and five from the coast; but Dr. Coues first reported its capture in the United States, in the 'Proceedings' of the Philadelphia Academy, in 1866, he having taken a specimen on the Gila River, in Arizona, on September 24, 1864. The description of the adult Zone-tailed Hawk, by Mr. Ridgway, in 'North American Birds,' was based on a specimen taken by Dr. Coues, in the month of August, on the Hassayampa River, in Arizona. When the great work on North American birds, by Baird, Brewer and Ridgway, was published, in 1874, *Buteo abbreviatus* was still known as a bird of the United States only through the published accounts of Drs. Coues and Cooper, and was regarded as a very rare straggler over our border into Southern California and Arizona; but Mr. Brewster

* But Gray's *Buteo albonotatus* (Isis, 1847, p. 329) has been doubtfully referred here.

† Catalogue of Birds in the British Museum, Vol. I, p. 163.

extended its known North American range into Texas, in 1879, and described its nest and eggs, taken in Comal Co., in that State, by Mr. Werner. Later in the same year, Mr. F. Stephens described its breeding habits, as observed by him on the Gila River, in New Mexico. These records, to which reference will be made further on, give it quite an extensive breeding range across our southern border.

Mr. N. C. Brown noted its presence in Southwestern Texas, in the 'Nuttall Bulletin,' in 1882, and again recorded it from that State in 'The Auk' for April, 1884. Mr. Brewster, in Vol. VIII of the 'Bulletin of the Nuttall Ornithological Club,' described three specimens, taken at Tucson, Arizona, by Mr. F. Stephens, who ascertained that it breeds in that locality.

It is apparent, from the above data, embracing all of the records accessible to me in this remote quarter of the globe, that the status of *Buteo abbreviatus* as a bird of the United States is established beyond question; but with *Urubitinga anthracina* the case is different.

The Mexican Black Hawk's right to a place in the avifauna of the United States rests solely upon the authority of Mr. H. W. Henshaw, which I consider to be a very good foundation indeed; but as doubt has arisen respecting the accuracy of his statement that he had twice seen *Urubitinga anthracina* alive in Arizona, and that Captain Bendire had taken eggs believed to belong to this species at Tucson, Arizona, I suppose that this Hawk properly belongs in the category of challenged species in the list of American birds north of Mexico.

Mr. Henshaw's notice reads as follows: "Captain Bendire writes me that in 1872 he found this hawk breeding in Arizona, and obtained the nest and eggs. The bird was supposed by him to be the *Buteo zonocercus*, but has since been ascertained to be this species. It thus has a good claim to a place in our fauna, and may indeed be not uncommon in the southern part of the Territory, since two individuals were seen by us during the past season. While riding one day a short distance from Camp Bowie, one of these birds sailed past within a few feet, affording me an excellent opportunity for its identification. On a second occasion, while passing through a narrow cañon, about sixty miles north of Camp Lowell, another flew out from a large cottonwood, on one of the lower limbs of which it had been perching; it was

certainly not more than a dozen feet from my head. In each instance, the narrow white band across the tail, with the size and colors generally, establish its identity beyond a question. The flight is easy and powerful."

Upon the above authority and the same author's original announcement of the discovery, published in the 'American Sportsman' earlier in the same year (1875), the name of this splendid rapacious bird was enrolled upon our catalogues of North American birds. Nearly a decade had elapsed since this account, without any further advices of the occurrence of the Mexican Black Hawk in North America north of Mexico, when Mr. William Brewster wrote (Bulletin of the Nuttall Ornithological Club, Vol. VIII, 1883, p. 30) as follows: "Dr. Coues took a Zone-tailed Hawk on the Gila River, Sept. 24, 1864, and this, so far as I know [overlooking the specimen which furnished Mr. Robert Ridgway with the text for his description of the adult of this species in 'North American Birds,' Vol. III, 1874, p. 272], is the only identified Arizona specimen which has been previously announced. I cannot help thinking, however, that the bird which Captain Bendire found breeding in Arizona in 1872 really belonged to this species, as he at first supposed, and not to *Urubitinga anthracina*, as afterwards surmised by Mr. Henshaw. Nor is it improbable that the Black Hawks seen by the latter gentleman near Camp Bowie were also referable here."

This is clearly a case where "the doctors disagree"; but my residence in Arizona has enabled me to decide it. In the first place, what respecting the authenticity of Mr. Henshaw's record? The sagacity of that talented author and field collector is too well known to require comment; and the circumstantial manner in which he tells his experience, together with the fact that he took the pains to preface his article with an elaborate description of the species, which he tells us was "kindly furnished by Mr. Ridgway, who examined, for the purpose, a very large *suite* of specimens in the collection of the Smithsonian,"* and the circumstance that he immediately published an announcement of his discovery in the 'American Sportsman,' and again refers to it in his "Introductory Remarks" (page 141) as among the important results of his last season's work in Arizona, all go to show how

* The description, slightly altered and enlarged, was afterwards published in that author's 'Studies of the American Falconidæ,' pp. 170, 171.

positive was his belief that the Black Hawks seen by him in different parts of Arizona were *Urubitinga anthracina*; and, on reading his article, after forming the acquaintance of both these Hawks, I have not the slightest doubt that he was correct, much as I envy him precedence in making the discovery.

Although the superficial resemblance in the color-pattern of these birds of different genera has occasioned error or doubt in identifying them, they may be readily distinguished by their generic characters; but, as North American specimens of *Urubitinga anthracina* have never been described, and the descriptions of the species are not always conveniently accessible, I here insert descriptions of both species for comparison, describing the nestling of *Urubitinga anthracina*, I believe, for the first time. For convenience of reference such synonyms are given as are pertinent to this paper.

***Buteo abbreviatus* CABAN. ZONE-TAILED HAWK.**

Buteo abbreviatus CAB. Schomb. Guiana, III, 1848, p. 739.—SHARPE, Cat. Birds Brit. Mus. I, 187, p. 163.—BROWN, Bull. N. O. C. VII, No. 1, Jan. 1882, p. 42.—BREWST. Bull. N. O. C. VIII, No. 1, Jan. 1883, p. 30.—BROWN, Auk, I, No. 2, April, 1884, p. 122.

Buteo zonocercus SCL. Trans. Zool. Soc. Lond. IV, pt. VI, 1858, p. 263, pl. 59.—COUES, Proc. Acad. Nat. Sci. Phila. 1866, p. 46.—COOPER, Birds Cal. 1870, p. 479.—COUES, Key, 1872, p. 517.—RIDGW. Hist. N. Am. Birds, III, 1874, p. 273.—BREWST. Bull. N. O. C. IV, No. 2, April, 1879, p. 80.—STEPHENS, Bull. N. O. C. IV, No. 3, July, 1879, p. 189.

DESCRIPTION.—*Adult male in breeding plumage* (No. 4048, New River, Arizona, May 16, 1885; E. A. M.). General color brownish black, glossed with dull metallic colors of gold, purple, steel-blue, and green; forehead and rictus white, mixed with black hairs; feathers of crown, neck, interscapular region, and breast white at base, but the white nowhere exposed; the breast with a few lateral white spots of irregular form. Tail black, narrowly tipped with ash above, more broadly below, with a white bar crossing it transversely; broadly banded near the end with hoary plumbeous, and more narrowly about the middle with the same color, which, except on the central pair, becomes pure white upon the concealed inner webs of the feathers above, and on both webs below; a series of spots upon the inner webs indicate still another caudal bar, which is not apparent above. The brownish black primaries are banded with deep black. Lining of wings black, some of the feathers spotted laterally with ashy white. Under surface of primaries dusky plumbeous, irregularly barred and mottled with grayish white and ashy. A few of the upper tail-coverts have small, concealed, ovate

white spots; and some of the under tail-coverts are faintly tipped or spotted with the same. The form is light, the legs slender. Four outer primaries have their inner webs cut. Wing-formula, 4, 5, 3, 2, 6, 7, 1. Tail of twelve feathers; slightly rounded, the amount of graduation between the outer and central pair being 25 mm. The primaries extend 150 mm. beyond the secondary remiges. *Dimensions*. *—Length, 497; alar expanse, 1240; wing, 397; tail, 230; chord of culmen and cere taken together, 34; cere, 16; culmen, 22; gape, 36; tarsus, 70; middle toe and claw, 62; toe alone, 45. The hind claw is longest, measuring 25 mm; the inner and middle claws are equal, measuring 23 mm. each; and the outer claw measures but 17 mm.

Adult female in breeding plumage (No. 4007, New River, Arizona, May 16, 1885; E. A. M. Mated with the above, and parent of egg described below). This specimen closely resembles the male just described, except that there is an additional tail-bar, plainly indicated above; and the basal white of plumage is exposed upon the breast. The tail is somewhat more rounded, the amount of graduation being 19 mm.; and the exposed tail-bars are tinged with brown. *Dimensions*.—Length, 530; alar expanse, 1315; wing, 420; tail, 235; culmen and cere taken together, 36; cere, 17; culmen (chord taken from cere), 24; gape, 40; tarsus, 77; middle toe and claw, 66; middle toe alone, 48. Claw of hallux, 27; inner claw, 26; middle claw, 23; outer claw, 19. Another adult female (No. 4050, taken on the Agua Fria at Swilling's Ranch, Arizona, May 17, 1885. E. A. M.; parent of eggs described below) does not differ appreciably. It presents the following dimensions: Length, 540; alar expanse, 1350; wing, 430; tail, 245; culmen and cere, 36; cere, 17; culmen, 25; gape, 41; tarsus, 76; middle toe and claw, 70; toe alone, 49. Claw of hallux, 27; inner claw, 25; middle claw, 22; outer claw, 17.

Young male (No. 2945, Verde River, near Fort Verde, Arizona, May 28, 1884; E. A. M.). Differs from the adult in having the exposed portion of the tail hoary brownish gray above, crossed by ten narrow black bars, the subterminal one being much the widest; upon the concealed inner webs the light color fades to white, sharply contrasted with the black bars, which do not usually correspond upon the two webs of the feather. The specimen also exhibits much more white; the feathers of the top of the head, back, scapulars, and ventral surface are pure white at base, the white bases being considerably exposed upon the nape, interscapulars, and breast. The white forms a series of lateral spots upon the webs of the scapulars and neighboring coverts, upper and lower tail-coverts, and flanks. The lining of the wings is black, with the longest feathers regularly spotted with white. Under surface of rectrices and remiges hoary grayish, fading to pure white upon the inner webs, except the terminal portion of the outer primaries, which is dark; rectrices barred with dusky, corresponding to the black dorsal bars; remiges barred or spotted with the same. *Dimensions*.—Length, 498; alar expanse, 1245; wing, 400; tail, 230; culmen and cere, 33; cere, 15; culmen, 22; gape, 36; tarsus, 66; middle toe and claw, 60; toe

* All measurements are given in millimetres.

alone, 46. Claw of hallux, 25; inner claw, 23; middle claw, 22; outer claw, 18. Graduation of tail, 18.

In all of the above specimens the soft parts were colored as follows: Irides, hazel. Bill pale blue at base, shading into plumbeous black at tip. Cere and edge of mouth greenish-yellow. Tarsi and feet lemon yellow. Claws plumbeous-black.

HABITS.—Late in the month of March, 1884, I first beheld the wide valley of the Rio Verde, with its tortuous stream winding in zigzags, bounded by a fringe of cottonwoods which, at that season, were destitute of foliage or flower. We gazed with keen interest upon the panorama before us, as the driver of our ambulance pointed out in the distance a series of low, whitewashed sheds surrounding a quadrangle and flanked by some adobe walls and haystacks, which he said was the post of Fort Verde, which was to be our station and home for an indefinite period.

The steep and rugged cañon through which we were driven was wooded with evergreens of several species, and wild flowers of bright hues were already unfolding. The manzanitas exhaled a delicious fragrance, and their pretty pink bloom heightened the effect of these handsome shrubs, which grew luxuriantly upon the hillsides. Along the beautiful stream that flows through the cañon were deciduous trees, among them ash, box-elder, and the familiar sycamore; but the wide expanse before us was apparently destitute of any vegetation save scanty grass in places, and the fringe of bare cottonwoods marking the course of the Verde River. A white bluff of limestone arose upon the opposite side of the valley, and was broken and carved into fantastic shapes by deep cañons furrowing it.

It was a dismal and desolate outlook truly, but possessed of the beauty of wild loneliness. A few days' residence at the Post more than reconciled us to our surroundings, and we soon discovered that Nature had here scattered her treasures with lavish prodigality, though veiling them from the vulgar gaze never so cleverly. Once out of 'Copper Canon,' the tired mules sped towards the Post, scattering noisy flocks of Mexican Shore Larks and scurrying troops of Gambel's Plumed Quails. As we rounded the corner of the corrals we witnessed an exhibition of the prowess of the Prairie Falcon in capturing a Pigeon. The ensuing months were spent in riding over the neighboring country, and every day brought its new discoveries in animal and plant life. The cottonwoods bloomed and then unfolded their wealth of rich

green leaves; mesquites, before scarcely noted, also leaved and bloomed, and an almost endless succession of handsome annuals sprang from the dun-colored soil, until the inflorescence was as marked as the seeming lack of vegetation at first. As the season advanced, the temperature steadily rose, until we resorted to the grateful shade of the cottonwoods beside the river from necessity, during the hottest hours of the day; and there I was not long in discovering the two black Hawks which are the subject of this writing.

One day, when examining the work of beavers beside the Verde, a Zone-tailed Hawk emerged from the dark shade of a neighboring belt of cottonwoods, moving straight towards me on motionless wings and passing within a few feet, scanning the water beneath with intent interest and paying no attention to me, but moving its head with a restless side movement. Later in the day I secured a handsome example as it flew overhead, and thereafter frequently observed them throughout the entire year beside the Verde River, where they capture lizards, frogs, fishes, and other desirable articles of raptorial diet.

I never experienced any difficulty in distinguishing between it and the melanistic form of Swainson's Hawk; when in hand, specimens may be readily diagnosed by the presence of but three emarginated outer primaries in *Buteo swainsoni*, instead of four as in *B. abbreviatus*; the color pattern of the tail, and the white base of the feathers of the latter are likewise diagnostic.

The Zone-tailed Hawk is of quite general distribution in Arizona, in the vicinity of the streams which it frequents. I have seen it near Prescott, at a considerable elevation (about 6000 feet), and at various points between there and the city of Tucson, in the southern part of the Territory, where I found it quite numerous during the past spring.

I never succeeded in detecting the nest of this Hawk in the Verde Valley, and therefore considered myself fortunate in finding two nests elsewhere during the past spring. It was with a peculiar sensation of pleasure and relief that I rode my hunting horse 'Daisy' into the cool shade of some beautiful cottonwood trees upon the banks of the New River, Arizona, on the 16th of May, 1885, and filled my canteen in the stream and drank, while my brute companion slaked her thirst after the manner of her equine kind. We had travelled nearly a thousand

miles, and were now within a few days' march of home. Few trees had rested our eyes from the glare of the tropical sun, or had shielded us from the fervid heat of its piercing rays, upon the scorched desert wilderness that we had traversed. Here was shade, and the sweet sound of a running stream, upon whose margin a handsome nosegay might have been easily plucked. Where could a traveller find a more pleasant resting-place? Soon 'Daisy' was munching sweet herbage upon the shore, and perchance was thinking of the good barley soon to be enjoyed in her snug stall in the Quartermaster's corral at Fort Verde, whilst my own thoughts had wandered to very nearly the same locality, when both were interrupted by the shrill whistle of a Hawk that came gliding towards me through the dark shadows of the dense foliage. A quick shot brought the bird to my feet. I immediately mounted my horse, intent upon discovering the location of the domicile of the Zone-tailed Hawks, whose haunts I had unwittingly invaded; crossing the stream I rode a little distance upon the opposite side and, dismounting, scanned every tree closely in quest of the nest. I was not long in discovering a bulky nest, fixed in the fork of a large cottonwood branch, across the stream, at an elevation of about twenty-five feet, and the female parent standing upon it. She gave a loud whistle and came skimming towards me, and was also shot. The nest was coarsely built of rather large sticks, with considerable concavity, lined with a few cottonwood leaves only, and contained a single egg, of a rounded-oval shape, slightly smaller at one end, in color clear bluish white, immaculate, and measuring 55×43 mm. On dissecting the female parent, I discovered that two would have been the full complement for this pair.

The morning following the day on which the nest just described was discovered found me encamped on the Agua Fria. The cañon through which this stream flows, below Swilling's Ranch, is one of the prettiest places I have seen in Arizona. As our march was to be a short one, there was no necessity for haste, and at any rate I could not resist the temptation to follow this enticing stream, which I did, for a distance of about two miles. The stream is here quite large, flowing over an even bed of glittering sand for a mile, occasionally dividing to join lower down, enclosing in the loop a grove of tall cottonwoods, edged with a growth of smaller willows, and fringed with arrowwood and vines.

The rocky sides of the cañon were covered with cacti of diversified shapes, from the gigantic *Cereus* to the *Echinocacti* and *Opuntia*. Beautiful flowers grow beneath the tall cottonwoods, which here form the handsomest groves that I have yet seen. The cañon echoed the voices of hundreds of feathered songsters, and the hum of insects and countless Hummingbirds filled the air. Flocks of beautiful White-winged Doves drank upon the sandy brink and then betook themselves to the dense foliage overhead, where their loud and mournful cooing filled the air. An occasional glimpse of the gorgeous plumage of the Saint Lucas Cardinal was obtained, and shining Phainopeplas darted after insects from the sides of the cañon.

In the early morning I visited this sylvan solitude, and could not abstract myself until the morning was far spent; nor was the time idly employed. I found a pretty Thrush that was new to me, and observed the nesting habits of several rare birds.

Here I again found the Zone-tailed Hawk. A female was shot as she flew screaming at me, and the nest was soon found in a cottonwood near by. The male parent sat upon the eggs, and flew away when I got close up to the tree and shouted. It disappeared after circling over the cañon a few times and did not return while I was there, although I spent several hours in the vicinity. I climbed with vast exertion to the nest, which was built in a fork, about fifty feet from the ground, and was exactly like the first one. It was composed of sticks, lined only with green leaves of cottonwood attached to the twigs. It was rather concave, and contained two eggs, which differ considerably in size, shape, and markings from those first found; but there can scarcely be any doubt about the identification, for the female parent was shot close to the nest, while the other bird was distinctly seen when flying from it, and was black, having its tail barred with white below. Perhaps, however, it is safest to say that these eggs are not absolutely free from the suspicion of being those of *Urubitinga anthracina*, as the parent seen to leave the nest was not shot. They are oval, considerably smaller at one end; ground-color white, with yellowish weather-stains in spots. One measures 63×45 mm. It is finely sprinkled with dark sepia-brown specks, and a few paler brown and lavender spots, having a smeary granular appearance. All the marks are most numerous at the large extremity. The other measures 61×43 mm. It is

evenly blotched with very pale yellowish brown and lavender. Both contained large embryos and were emptied of their contents with difficulty. Mr. Brewster describes eggs taken from a nest built in a cypress tree on the banks of Guadalupe River, in Comal County, Texas. They are "marked with blotches of reddish brown upon a dull white ground." These blotches in one specimen occur most thickly about the larger end, where they tend to form a nearly confluent ring, while in the other specimen the markings are most numerous about the smaller extremity. He observes that "although the parent birds belonging to this nest successfully eluded all attempts to capture, their identity can scarcely be doubted." The specimens measured (reducing to millimeters) 53.09×38.86 mm. Mr. F. Stephens also found this bird breeding on the Gila River in New Mexico, about twenty miles from the Arizona line, and obtained one of the parents. The nest was placed in a very large cottonwood tree, in the mouth of a cañon, and contained one egg, having a large embryo which could not be extracted. The nest was quite bulky, composed of twigs, lined with strips of the inner bark of the cottonwood. The egg was marked with large reddish brown blotches, irregularly distributed on a dirty white ground.

From the above description it will be observed that the variation in the eggs of this species, both in size and color-markings, is considerable, but possibly not greater than in other species of the genus.

Urubitinga anthracina (*Licht.*) *Lafr.* MEXICAN
BLACK HAWK.

"*Falco anthracinus* LICHT." NITZSCH, Pterylographie, 1840, p. 83.

Urubitinga anthracina LAFR. Rev. Zool. 1848, p. 241.—HENSCH. Zool. Expl. W. 100 Merid. 1875, pp. 420, 141 (introductory notes).—RIDGW. Studies Am. Falconidæ < Bull. U. S. Geol. and Geogr. Surv. Terr. April 1. 1876, p. 170.—BREWST. Bull. N. O. C. VIII, No. 1, 1883, p. 30.

DESCRIPTION.—*Adult in breeding dress* (No. 4103, ♀ ad., June 19, 1885, Fossil Creek, Arizona. E. A. M.; parent of nestling described below). General color brownish-black, slightly glossed with metallic reflections of green, gold, and purple, with a glaucous cast, most pronounced upon the interscapular region and nape; lores, ophthalmic region, and a triangular patch extending backward from the angle of the mouth white, but

the loreal region mixed with black hairs, and the feathers of the post-angular patch having black shafts and gradually blending apically to blackish behind; upper and under tail-coverts narrowly tipped with white; tail jet black, white at extreme base, narrowly tipped with white, and crossed about the middle by a broad continuous band of pure white, of variable pattern on the individual feathers, and with a few irregular, small white spots upon the inner webs between the white central and basal bands, barely indicating an additional white bar; shafts of rectrices black above excepting the two central ones, which are white, lined centrally with black, below chiefly white in the area corresponding to the white bar, elsewhere black; feathers of the nape and interscapular region white at base, the rest of the body feathers being blackish throughout; tibial plumes narrowly tipped with rusty white, not filamentous; feathers of the edge of wing narrowly edged with white; lining of wings black, a few feathers perceptibly edged with pale rufous; remiges beautifully mottled beneath with white on the inner and gray on the outer webs; above the outer webs are mottled with hoary grayish, the mottling changing upon the inner webs to rusty ochraceous and whitish; quills white at base, shading to black; scapulars indistinctly edged with brownish. Irides reddish-hazel. Cere, mastax and tomia orange. Bill plumbeous black, orange at extreme base. Tarsi and feet yellow; claws plumbeous black. *Dimensions*.—Length, 555; alar expanse, 1315; wing, 413; tail, 245; culmen and cere (chord), 40; cere, 15; culmen, 28; gape, 42; tarsus, 91; middle toe and claw, 62; middle toe alone, 47. Claw of hallux, 27; inner claw, 52; middle claw, 22; outer claw, 17.

A specimen in fresh autumnal plumage (No. 3354, ♀ ad., Sept. 26, 1884, Verde River, near Fort Verde, Arizona; E. A. M.) differs from the above chiefly in having the glaucous tinge of the plumage much more distinct, in this respect affording an exact parallel to the Black Crested Flysnapper (*Phainopepla nitens*) in corresponding plumages. The glaucous extends to all of the dark plumage except the tail. The plumage being unworn, the pattern of the apices of the feathers is better exhibited; the terminal band of white on the tail is wider, the light edging to the tail-coverts, tibial plumes, and edge of wing more pronounced, and some feathers of the chest and interscapular region are seen to have rusty edgings, while upon the chin and cheeks are scattered a few white filamentous feathers, and the concealed bases of the feathers of the nape and interscapulars are rusty tinted. The mottling of the remiges is darker—chiefly gray, with little white or rusty. The white spots upon the inner webs of the rectrices, mentioned above as indicating an additional white bar, intermediate between the basal and broad central white bands, are strongly indicated and extend to both sides of the shafts. The feathers at front of forehead are white at extreme base. Irides hazel. Bill pale yellow at base, shading through light plumbeous to blue-black terminally. Cere, mastax, and tomia pure bright yellow. Tarsi and feet yellow; claws blue-black. *Dimensions*.—Length, 560; alar expanse, 1330; wing, 400; tail, 262; culmen and cere, 40; cere, 16; culmen, 28; gape, 42; tarsus, 88; middle toe and claw, 66;

middle toe alone, 47. Claw of hallux, 27; inner claw, 25; middle claw, 24; outer claw, 18.5.

Nestling (No. 4104, ♂ juv., June 19, 1885, Fossil Creek, Arizona: E. A. M.). Covered with dense woolly down, nearly white on head and breast, passing into grayish posteriorly upon the head, throat, sides of breast, tibiæ, and back; the feathers are just emerging from the soft down, while the remiges and scapulars are grown out enough to show the color-pattern, and the quills of the rectrices are about 70 mm. (2¾ inches) in length, only the terminal one-fourth of their webs being expanded. The exposed feathers bear terminal hairy filaments and tufts of down. The eyelids are clothed with fine black hairs. The feathers discernible upon the throat are black. The parotics and feathers of the back, crown, breast, and flanks are brownish black, edged or tipped with ochraceous; those upon the outer side of the tibiæ are handsomely barred with black and ochraceous; the remiges, wing-coverts, and scapulars are brownish black, the wing-coverts, scapulars, and some of the remiges being edged and tipped with rusty-fulvous; the secondaries with lateral ovate spots of ashy-gray, tinged with rusty, those upon the inner webs often wholly rusty. The terminal upper tail-coverts are edged with pure white, as in the adult; and the white terminal bar across the rectrices is likewise strongly marked, but tinged slightly with ochraceous. Irides brownish gray; cere greenish yellow; tarsi and toes yellow; claws plumbeous black; bill dusky plumbeous. In this species the form is very heavy and powerful, the body weighing twice as much as that of *Buteo abbreviatus*; this with the elongated bill and tarsi, together with the broad white band across the middle of the tail, will serve readily to distinguish it from that species.

My specimens differ from those examined by Mr. Ridgway in having but four outer primaries cut, while the fifth is shallowly emarginated—less so than in *Buteo borealis*—the sixth being perfect in outline. The tail is nearly square, the central rectrices extending only from 9 to 11 mm. beyond the outer pair.

HABITS.—When hunting along a sluice of the Verde River, beneath a dense growth of willows and cottonwoods, I first discovered the Anthracite or Mexican Black Hawk, perched among the thickest foliage of a low willow overhanging the shallow water. The imperfect view obtained as it flew off through the trees led me at first to suppose that it was an immature Golden Eagle, a species that I had several times encountered thereabouts in similar situations. A snap shot proved unsuccessful, as was the case on several subsequent occasions, and, although I frequently saw them along the river, it was long ere I succeeded in procuring a specimen. Always extremely shy, they were usually found hidden in the foliage near the water in some low situation whence, when surprised, they generally managed

to escape through the foliage of the cottonwoods without affording a good opportunity for a shot. Their flight is swift and powerful. Occasionally one was seen eating a fish, upon the sandy margin of the river. They were present throughout the summer, but departed in the autumn, my absence in the field during the months of October and November having prevented me from determining the date of departure.

On the 26th of March, 1885, I found one of these Hawks upon the Agua Fria, about thirty miles southwest of Fort Verde, at a considerably higher altitude; and on Oak Creek, a mountain stream thirty miles north of Fort Verde, in the foothills of the San Francisco Mountains, I wounded an immature example on the 12th of August of the same year, it having probably been reared on that stream, which abounds with trout and other fishes.

On the 19th of June, 1885, Captain T. A. Baldwin and I set out to visit Fossil Creek, thirty miles east of Fort Verde, with an escort of two soldiers. We carried some rations and mining implements, packed upon a mule and two burros. We found the trail to the cañon without difficulty, but when nearly at the bottom took the wrong fork of the trail, which finally led us to the spring and forks of Fossil Creek, both branches of which we explored for several miles, finding tracks of wolves, bears, deer, raccoons, and beavers. A pair of Mexican Black Hawks were found at the forks of the stream close to the place where we had pitched our camp. Their loudly whistled cry is different from that of any bird of prey with which I am acquainted, but is difficult to describe, although rendered with great power.

They circled about us a few times, then retreated to some tall piñons upon the hillside, where they continued to cry vehemently until I essayed to force my way through the thick scrub oak towards them, when both birds flew, with loud screams, to a tall pine tree down the stream, where I succeeded in obtaining a long shot at the male bird, which, although mortally wounded, flew beyond my reach before dropping to the ground. His mate flew to the piñons far up the steep bank of the cañon, out of reach, and continued screaming constantly, following me up the cañon. Towards nightfall I came up with Captain Baldwin, and he told me that he had discovered the nest of my *rara avis* in a tall cottonwood down the cañon, and said if we hastened we might procure the eggs before dark and secure the other parent.

The nest was built in a cottonwood tree in the same grove in which we first found the birds. The nest had evidently been the birthplace of many generations of these Hawks, for it measured four feet in depth by two feet in width. It was lined with a layer of cottonwood leaves several inches deep, was very slightly concave, and composed of large sticks, much decayed below, showing that they had been in position for a number of years. The nest was about thirty feet from the ground. The female parent remained too shy to return to the nest until I began to climb the tree. At first I attempted to ascend by means of some grapevines, which gave way; then I managed to reach the upper part of the huge bole by swinging from a tall, slender box-elder tree, and scrambled with much exertion to the lowest branch. Meanwhile the Hawk had shown much uneasiness, fluttering in the air and screaming lustily. As I approached her treasure her parental solicitude overcame her terror and she sailed over the tree-top. I saw the gun at the Captain's shoulder and feared he would miss; but he wisely held his fire until the bird wheeled and rushed directly toward me, when a well directed shot dropped her just at his feet. A minute later I reached the nest and discovered a single half grown nestling, having the quill-feathers webbed terminally, and leaden gray down covering the greater part of the body. It fought fiercely, and evinced great pluck and ability to defend itself. The wounded parent was also savage, and tried to reach its assailant. After it was dispatched, the Captain proposed that we should attempt to find my wounded Hawk; but the locality was too dangerous, so we abandoned it with regret.

LIST OF BIRDS OBSERVED IN SUMMER AND FALL ON THE UPPER PECOS RIVER, NEW MEXICO.

BY H. W. HENSHAW.

[*Concluded from Vol. II, p. 333.*]

30. *Poœcetes gramineus confinis*. WESTERN GRASS FINCH. — A single individual was secured Sept. 20. It was doubtless merely a migrant which had strayed from its proper territory lower down on the plains.