

BRACHYRHAMPHUS HYPOLEUCUS, Xantus.

Bill slender and slightly curved, about half the length of head. Tarsus scarcely shorter than middle toe. Above dark brownish black, the edges of the feathers with a plumbeous tinge; the side of neck below, and the axillars with the concealed portion of the sides of the breast, ashy plumbeous. Entire under parts, including tail coverts and inside of the wings, pure white, this color extending on the sides of the head so as to include the eyes, the lids, however, are tinged with dusky; bill black; legs apparently reddish in life.

Length 10 inches, extent 15·80, wing 4·70, tail 1·80, bill above ·70, gape 1·20, tarsus ·85, middle toe 1·00.

This specimen is considerably weatherbeaten, and the old feathers of the upper parts are much worn, and bleached at the edges. The new ones are however as described.

Notes on a collection of Birds made by Mr. John Xantus, at Cape St. Lucas, Lower California, and now in the Museum of the Smithsonian Institution.

BY S. F. BAIRD.

Mr. Xantus, in transmitting to the Smithsonian Institution a collection of objects of Natural History made at Cape St. Lucas, Lower California, in the months of April, May, and June, 1859, has added descriptions of the species which he ascertained to be new by reference to the limited number of works at his command. These all appear to be really nondescript, and a careful comparison of the entire collection with supposed analogues from the north, shows differences in other species, entitling them to specific rank.

The examination of the collections of Mr. Xantus has proved of very great interest in elucidating the zoological peculiarities of the Cape, and especially in showing that its fauna is almost identical with that of the Gila River, and to a certain extent with that of the Rio Grande. It is an important fact also, that while these relationships are exceedingly intimate, there is almost none to the coast fauna of Upper California. As the birds were all collected during the spring months, after the migrating species had passed northward, they may be considered as especially characterizing the region. An examination of the list will show that of the forty-two kinds thus far received from Mr. Xantus, seven, or one-sixth, are peculiar to the Cape and probably new, while but two of the land birds which characterize the Pacific region of upper California are found there, all the other species being either distributed generally over the whole United States, or belonging especially to the Gila or Rio Grande regions, separately or collectively, and to that of the Southern Rocky Mountains.

Similar conclusions are to be derived from an examination of the other land vertebrates. The most characteristic mammal is the *Spermophilus harrisi*, heretofore only found in the Colorado desert. The *Perognathus penecillatus*, another Colorado species, is also met with. The *Macrotus californicus*, a leaf-nosed bat, heretofore only known from a single specimen taken at Fort Yuma, is very abundant. *Lepus californicus* and *troubridgii*, *Mephitis bicolor* and *Vespertilio pallidus*, Le Conte, appear to be species common to the Cape and to Western Upper California, the two latter occurring also in Texas.

In the Reptilia, also, very interesting facts are to be observed. Here, as far as can be ascertained by a hasty examination, out of about twelve species of Saurians, and as many Ophidians, not one is found in Upper California, the species consisting (with the exception of a few new ones) of such as *Dipsosaurus dorsalis*, *Uta ornata* and *stansburiana*, *Sceloporus scalaris*, *Callisaurus ventralis*, *Stenodactylus variegatus*, &c. There is a *Phrynosoma* very similar to the "coronatum" of Upper California, but quite distinct. There is also a very large
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Ctenosaura. The serpents are *Ophibolus splendidus*, a new *Crotalus*, *Masticophis testaceus*? a Rio Grande *Nerodia*, *Arizona elegans*, *Scotophis Emoryii*, *Lamprosoma episcopum*, etc., or species very closely allied to them.

The Zoology of the east side of the gulf of California is not sufficiently well known to allow a satisfactory comparison with that of Cape St. Lucas; it is however probable that the Gila fauna does not extend as far down as the latitude of the Cape, being displaced by the northward extension of the fauna of Western Mexico. Even at Guaymas, species of birds and reptiles occur, of genera different from those of the United States, as for instance the genus *Dryophis* among the serpents.

It may safely be considered as very probable, that additional species of the Gila and Colorado regions will hereafter be detected at the Cape, and that a closer examination of the former localities will bring to light several of the species for the first time noticed in the Cape collection of Mr. Xantus.

What the causes are which have produced this peculiar distribution of animal life on the Cape, it is at present impossible fully to elucidate. The mountain crests which extend longitudinally along the peninsula might form an impassible barrier to the passage of species from one coast to the other, but as there appears to be no greater obstacle to the extension southward to Cape St. Lucas from the coast region of Upper California, than from the mouth of the Colorado along the east side of the peninsula, we would expect to find a much greater mixture of species at the Cape than really exists. No information is at present at our command as to the zoology of the interior of the peninsula. It is, however, quite probable that the narrow vallies enclosed between the mountainous sides of the peninsula may have species widely different from either those of the Cape itself, and of Upper California, and more analogous to those of Mazatlan and its vicinity.

The region in which Mr. Xantus obtained the birds hereafter enumerated, is one which at first sight would not seem a very promising field for exploration. The shore is sandy for about a quarter of a mile inland, whence a cactus desert extends for a width of about six miles up to the high mountains on the West and North. The *Cereus giganteus* is a prominent feature in this peculiar vegetation, rising occasionally to a height of sixty or more feet. The ground is covered for miles with a saline efflorescence, painful to the eye, into or through which the feet sink to a considerable distance. There is no fresh water nearer than San José, a distance of twenty-eight miles. The region, though in the spring and summer inhabited almost exclusively by land birds, is said in the rest of the year to be the resort of innumerable water fowl and waders, among which Mr. Xantus will doubtless find many rare species.

Before proceeding to an enumeration of the summer birds of Cape St. Lucas, it may be well to state that they illustrate in a remarkable degree the law derived from an examination of large series of specimens in the Smithsonian museum, and frequently referred to in the ninth volume of the Pacific R. R. Report; namely, that whenever species have a wide range in latitude as resident birds or as summer visitors, the farther North the species is found breeding, the larger it is, and vice versa. The same principle applies, though in less marked degree, to an increasing altitude in the same latitude. The difference in size between the same species of bird breeding at Cape St. Lucas and in the Colorado Valley, or in the more northern Rocky Mountains, is very striking, so much so as readily to induce the impression of a difference in the species.

The following table will illustrate more fully what has been said in regard to the geographical distribution and character of the species. It will be seen that all the characteristic land species of the Cape (all supposed to be new excepting *Colaptes chrysoides*) are exceedingly abundant, breeding in large numbers.

[Nov.

LIST OF SPECIES.	REMARKS.							
	Cape St. Lucas.	Coast region of Upper California.	Fort Yuma and Lower Gila.	Southern R. Mts., and El Paso.	Valley of Rio Grande toward its mouth.	South Atlantic and Gulf States.	Northern Atlantic States.	South America.
1. <i>Tinnunculus sparverius</i> , Vieill.....	*	*	*	*	*	*	*	*
2. <i>Bubo virginianus</i> , Bonap.....	*	*	*	*	*	*	*	
3. <i>Picus lucasanus</i> , Xantus.....	*	*	*	*	*	*	*	Very abundant.
4. <i>Centurus uropygialis</i> , Baird.....	*	*	*	*	*	*	*	" "
5. <i>Colaptes chrysoides</i> , Mulh.....	*	*	*	*	*	*	*	" "
6. <i>Geococcyx californianus</i> , Baird.....	*	*	*	*	*	*	*	Abundant.
7. <i>Chordeiles texensis</i> , Laver.....	*	*	*	*	*	*	*	" "
8. <i>Myiarchus mexicanus</i> , var. Baird.....	* ¹	*	*	*	*	*	*	" "
9. <i>Sayornis nigricans</i> , Bonap.....	*	*	*	*	*	*	*	One specimen.
10. <i>Empidonax obscurus</i> , Baird.....	*	*	*	*	*	*	*	" "
11. <i>Hirundo thalassina</i> , Sw.....	*	*	*	2, 3	3	*	*	Rather common.
12. <i>Progne purpurea</i> , Boie.....	*	*	*	*	*	*	*	" "
13. <i>Phainopepla nitens</i> , Slater.....	*	*	*	2	*	*	*	Common.
14. <i>Mimus polyglottus</i> , Boie.....	*	*	*	*	*	*	*	Not common.
15. <i>Harpohynchus cinereus</i> , Xantus.....	*	*	*	*	*	*	*	Very abundant.
16. <i>Campylorhynchus affinis</i> , Xantus.....	*	*	*	*	*	*	*	" "
17. <i>Poliophtila melanura</i> , Laver.....	*	*	*	*	*	*	*	One specimen.
18. <i>Paroides flaviceps</i> , Baird.....	*	*	*	*	*	*	*	Very common.
19. <i>Carpodacus frontalis</i> , Gray.....	*	*	*	*	*	*	*	Common.
20. <i>Chondestes grammacus</i> , Bonap.....	*	*	*	*	*	*	*	One specimen.
21. <i>Zonotrichia leucophrys</i> , Swain.....	*	*	*	*	*	*	*	Two specimens.
22. <i>Calamospiza bicolor</i> , Bonap.....	*	*	*	*	*	*	*	" "
23. <i>Guiraca melanocephala</i> , Swain.....	*	*	*	*	*	*	*	One specimen.
24. <i>Cyanospiza versicolor</i> , Baird.....	*	*	*	*	*	*	*	Three specimens.
25. <i>Pyrhuloxia sinuata</i> , Bonap.....	*	*	*	*	*	*	*	Common.
26. <i>Cardinalis igneus</i> , Baird.....	*	*	*	*	*	*	*	Very abundant.
27. <i>Pipilo albignla</i> , Baird.....	*	*	*	*	*	*	*	" "
28. <i>Agelaius</i>	*	*	*	*	*	*	*	One specimen.
29. <i>Icterus parisorum</i> , Bonap.....	*	*	*	2, 5	5	*	*	Very common.
30. " <i>cucullatus</i> , Swain.....	*	*	*	*	*	*	*	Three specimens.
31. <i>Cyanocitta californica</i> , Strickl.....	*	*	*	*	*	*	*	Not common.
32. <i>Melopelia leucoptera</i> , Bonap.....	*	*	*	*	*	*	*	Very abundant.
33. <i>Chamaepelia</i> var. <i>palescens</i> , Baird.....	*	*	*	*	*	*	*	" "
34. <i>Lophortyx californica</i> , Bonap.....	*	*	*	*	*	*	*	Common.
35. <i>Garzetta thula</i> , Bonap.....	*	*	*	*	*	*	*	One specimen.
36. <i>Ægialitis vociferus</i> , Cassin.....	*	*	*	*	*	*	*	
37. <i>Calidris arcuaria</i> , Illiger.....	*	*	*	*	*	*	*	
38. <i>Fulica americana</i> , Gmel.....	*	*	*	*	*	*	*	
39. <i>Graculus dilophus</i> , Gray.....	*	*	*	*	*	*	*	
40. <i>Thalassidroma melania</i> , Bonap.....	*	*	*	*	*	*	*	
41. <i>Blasipus hermanni</i> , Bonap.....	*	*	*	*	*	*	*	One specimen.
42. <i>Brachyrhampus hypoleucis</i> , Xan.....	*	*	*	*	*	*	*	One specimen.
	42	18	21	20	18	8	8	4

An examination of the table will show that seven (all new) out of forty-two species may as yet be considered as peculiar to Cape St. Lucas. Two land birds and two water birds belong to the coast region of Western North America; two species are peculiar to the Lower Gila and Colorado, (*Centurus uropygialis* and *Colaptes chrysoides*,) although both may be found in time as far east as El Paso. On the other hand, fourteen of the species occur in the region extending from the Gila to the lower Rio Grande, none of them found in Upper California, although several stretch northward in the Rocky Mountain

1 If this large-billed bird be considered as distinct (*M. pertinax*) from the true *M. mexicanus*, it will be entered only in the Cape column.

2 Found in the extension of the mountains south-east into Mexico

3 Extending northward as far as Fort Bridger.

4 Confined to the southern end of this region; at Fort Tejon.

5 Found on the Pecos only in this region.

region considerably beyond the latitude of San Francisco. But a single species (*Garzetta thula*,) belongs to the South American fauna; and this may not be the same bird as the Chilian.

One of the most striking facts of all is that not a single land animal has been identified as found in Mexico and not in the United States also. Not a single bird of the Western Tierra Caliente of Mexico has been yet met with, however abundant it may be on the opposite side of the gulf, not much over a hundred miles across.

The case, however, is quite different with the marine invertebrates, which, as might be expected, are very closely related to those of Western Mexico. The accompanying note* from Mr. Stimpson will illustrate the character of the crustacea of the Cape.

List of Birds collected from the middle of April to the middle of July, 1859.

1. TINNUNCULUS SPARVERIUS, Vieillot.
2. BUBO VIRGINIANUS, Bonaparte.
3. PICUS LUCASANUS, Xantus.—This species is intermediate in character between *P. scalaris* and *P. nuttalli*, resembling them very closely, and belonging to the same division of the genus. It has the brown feathers on the nostrils, the whole top of the head spotted with red, and the predominance of white on the cheeks of the former, and the deficiency of black bars in the white of the tail feathers of the latter; the black bars, except at the tip, not crossing the outer web, and the outer web of the third feather being almost entirely white. The bill and feet, the latter especially, are very stout and large, much more so than in the others, in *nuttalli*, especially. In size, it is about intermediate between the other two.
4. CENTURUS UROPYGIALIS, Baird.—As in the other woodpeckers, the specimens of this species have a peculiar weather-beaten and dull appearance.
5. COLAPTES CHRYSOIDES, Malherbe.—This bird is only known from an imperfect description by Malherbe of a single female specimen, and this author was ignorant of the peculiar feature of the male of this species, namely, in it combining the characters of both *C. auratus* and *mexicanus*. Thus, with ashy throat and cheeks, and broad, red moustache and absence of nuchal red of the latter, the shafts and under surface of the wing and tail are gamboge yellow, as in *C. auratus*. The tail feathers are more tipped with black than in either species, the outer being of this color for more than the terminal inch, and along most of the outer web. The jugular collar and the spots on the breast are considerably larger than in the other species. The top of the head is light yellowish brown. In size, this species is considerably inferior to that of *C. auratus*.

C. mexicanoides of Lafresnaye has the shafts red.

In the Report on birds of Pacific R. R., Series IX. p. 125, I refer to a female *Colaptes*, collected by Mr. Schott, on the line of the Mexican boundary survey, as possibly of this species. This proves now to be the fact, and extends the range of the species to the valley of the Gila River. The following

* More than sixty species of Crustacea have already been collected by Mr. Xantus, more than half of which are new. They belong to the genera *Pisa*, *Thoe*, *Micippa*, *Mithrax*, *Pericera*, *Lambrus*, *Atergatis*, *Xanthus*, *Pilumnus*, *Ozius*, *Eriphia*, *Ocypode*, *Grapsus*, *Pachygrapsus*, *Nautilograpsus*, *Calappa*, *Dromidia*, *Petrolisthes*, *Remipes*, *Albunea*, *Lepidops*, *Cænobita*, *Calcinus*, *Eupagurus*, *Alpheus*, *Palæmon*, *Livoneca*, *Ligea*, *Orchestia*, *Hyperia*, and several new ones. This new and rich Carcinological Fauna differs entirely from that of the Upper Californian Coast, not a single species being identical, and approximates more nearly to that of the Western coast of Mexico, from Guaymas to Acapulco; also in some degree to that of the Gallapagos Islands. Nearly all of the species described by De Saussure as inhabiting the Bay of Mazatlan, (Rev. et Mag. de Zoologie v. 354-368), have been found by Mr. Xantus at Cape St. Lucas.

detailed description of this little known species may be of interest: Above yellowish ash transversely barred with black. Chin, throat, and sides of head clear ash; under parts white: a broad pectoral crescent, and rounded spots on remaining under parts black.—Top of head light brown. Shafts of wing and tail feathers gamboge yellow. Tail black; the basal portion yellow; the outer feathers uniformly black on the exposed terminal half, including the shafts. No red on the nape. Bill black. Iris light brown. Male with a broad, red moustache. No trace of a moustache in the female.

Length of male about 11·00; wing 5·50; tail 4·50; bill above 1·50.

6. *GEOCOCCYX CALIFORNIANUS*, Baird.

7. *CHORDEILES TEXENSIS*, Lawrence.

8. *MYIARCHUS MEXICANUS*, Baird.—This bird does not appear exactly the same with the species of the United States and Mexico, although I can see no other difference than a rather stouter bill. This, however, appears to be a constant character, and may one day cause its separation as a species (*M. pertinax*, Baird.)

9. *SAYORNIS NIGRICANS*, Bonaparte.

10. *EMPIDONAX OBSCURUS*, Baird.

11. *HIRUNDO THALASSINA*, Swainson.—Much smaller than specimens from Oregon.

12. *PROGNE PURPUREA*, Boie.

13. *PHAINOPEPLA NITENS*, Selater.

14. *MIMUS POLYGLOTTUS*, Boie.—The specimens do not exhibit the same elongation of the tail as remarked in skins from Upper California. The tail appears, however, a little longer than in specimens from the Atlantic States.

15. *HARPORHYNCHUS CINEREUS*, Xantus.—This species is very similar in color and markings to *Mimus montanus*, although rather larger, with a considerably longer and more curved bill. It is nearly as large as *H. longirostris*, the bill of about the same length, though more curved. It differs from it, however, in the grayish plumage above, in the whitish tips to the tail, and in having short sagittate spots beneath, instead of elongated black ones. Besides the longer bill and other features, it lacks the rufous tinge of upper parts seen in *H. rufus*. It is smaller than *H. curvirostris*, the spots beneath much more distinct and sagittate. They are darker than the back, instead of being of the same color.

As already remarked, the shade of the coloration and pattern of marking are almost precisely those of *Mimus montanus*, while the bill is much like that of *H. longirostris*.

16. *CAMPYLORHYNCHUS AFFINIS*, Xantus.—This species is about the size of *C. brunneicapillus*, and resembles it closely in general appearance. The comparison of an extensive series of both will, however, exhibit unmistakable differences.

The anal region and thighs of *brunneicapillus* have a strongly fulvous tendency, (nearly wanting in *affinis*,) and the spots beneath are much smaller, in fact, scarcely more than shaft lines; on the throat and jugulum, on the contrary, the spots occupy almost the entire breadth of the feather, very conspicuously larger than the others. In *C. affinis* the spots beneath are very nearly of the same size, being larger on the belly and smaller on the throat than in the other species: the latter but little the larger.

The lateral tail feathers in *brunneicapillus* are black, all with a subterminal band of white: the external feather has both webs banded with white throughout. The next has a trace of a second terminal band, and there are

bands on the whole of the outer web. The remaining feathers, except the central ones, are banded only on the outer webs; sometimes not then, when the whole feather is black, except at the tip. In the other species, *C. affinis*, all the feathers (except the central) are banded uniformly with white from the base, there being from six to eight on each web, which alternate with each other, the bands being about equal to their black interspaces. The streaks on the back are more distinctly defined than in *brunneicapillus*, and the head above is of a clear, reddish chocolate, instead of the darker brown of the latter species.*

17. *POLIOPTILA MELANURA*, Lawrence.—The single specimen of this species sent in by Mr. Xantus has the tail feathers more broadly edged and tipped with white, and the gray of the back lighter and clearer than in specimens in the Smithsonian collection from the Gila region.

18. *PARODES FLAVICEPS*, Baird.—Specimens are much smaller than those from the Gila and Rio Grande. The yellow on the head also is brighter. In some there is a tinge of red in the yellow of the crown. Wing of male 1.90 inches.

19. *CARPODACUS FRONTALIS*, Gray.—Very similar to northern specimens, but smaller. The resemblance to some Rocky Mountain skins in the Smithsonian collection is very close.

20. *CHONDESTES GRAMMACA*, Bonap.

21. *ZONOTRICHEA LEUCOPHYRS*, Swains.—It is an interesting fact that this species should be found at the Cape, instead of *gambelii*. It is to be borne in mind that both are found along the Rocky Mountains as far south as El Paso, and that *Z. leucophrys* has not yet been detected in Upper California.

22. *CALAMOSPIZA BICOLOR*, Bonap.—This species has not yet been detected in Upper California.

23. *GUIRACA MELANOCEPHALA*, Swainson.

24. *CYANOSPIZA VERSICOLOR*, Baird.—The female of this species is very similar to those of *C. cyanea* and *amena*. From the latter it is distinguishable by the absence of traces of two white bands on the wings, and from both by the legs being black instead of dark brown. The bill appears to be more curved, and the legs larger than in the other species.

25. *PYRRHULOXIA SINUATA*, Bonap.—Smaller than Texan specimens.

* The following account of common and specific characters may serve to define the species better.

Head above uniform brown; back and scapulars grayish brown, each feather with a central white streak bordered externally by black; upper tail coverts and upper surface of inner tail feathers, obscurely marked transversely with grayish and blackish, other tail feathers black, barred with white. A white streak over the eye and along side of neck. Body beneath white, with rounded spots of black; strongly marked on the under tail coverts.

C. BRUNNEICAPILLUS.—Head above dark brown; black spots on the throat and breast, large, occupying the whole breadth of the end of the feather, the spots on the remaining under parts abruptly much smaller and less numerous. Crissum lower belly and flanks strongly tinged with pale rufous. The black tail feathers, except the outer, scarcely barred with white, except as a subterminal bar.

C. AFFINIS.—Head above dull light chocolate brown; black spots beneath of much the same size and strongly marked on nearly every feather, and but little if any more conspicuous on the jugulum than elsewhere; on the jugulum they are about opposite the middle of the feather (not at the tip) and do not cross both webs; very little trace of rufous any where beneath. All the black tail feathers are crossed with white bands on both webs throughout their whole extent. Length 7.50; wing 3.50; tail 3.25; bill above .80; tarsus 1.00.

26. *CARDINALIS IGNEUS*, Baird, n. s.—A Cardinal very abundant at the Cape; appeared at first sight to be the same with the *C. virginianus*. A comparison, however, of a large number of males with as many from the eastern United States and Texas, shows a difference, in the entire absence of black on the forehead between the nostrils, the red of the head coming down to the base of the culmen. The black of the side of the bill extends to the nostrils, but not between them on the forehead as in *virginianus*. The bill is larger and decidedly more tumid. The size, shape and colors are as in *virginianus*, the bill too being red, instead of white as in *phaniceus*.

27. *PIPILO ALBIGULA*, Baird, n. s.—Specimens of a *Pipilo* with the general aspect of *mesoleucus*, exhibit a constant difference in a rather greater extent of white on the middle of the belly. The chin and upper part of the throat are bounded by a border of dusky spots, which does not extend as far towards the jugulum as in *mesoleucus*, and is much better and more regularly defined below, not being broken up irregularly. The space enclosed by this border of spots is yellowish brown on the chin as in *mesoleucus*, but inferiorly on the throat and in front of the spots it becomes nearly, and sometimes quite white, in decided contrast to the chin color. The bill appears to be more slender. Both forms agree in having the chestnut hood, the dusky spot on the breast, and the white of the belly distinguishing them from *P. fuscus*. The size is that of *mesoleucus* from the Rocky Mountains, and inferior to that of *fuscus*.

28. *AGELAIUS* ——. — A skin of a female *Agelaius* does not afford characters sufficient to determine a species. It was collected at San José, some ten miles northeast of the point of the cape.

29. *ICTERUS PARISORUM*, Bonap.—The female of this species is olivaceous above, (lighter on the rump,) and yellow beneath. The tail feathers, except the middle ones, are greenish yellow, becoming grayish brown on the terminal third (which is black in the male,) and narrowly tipped with whitish. There are two distinct bands of white on the wing. The lores and throat are tinged with dusky.

30. *ICTERUS CUCULLATUS*, Swainson.

31. *CYANOCITTA CALIFORNICA*, Strickland.—Rather smaller than more northern specimens, but apparently similar. There is, however, a tendency to the blue tinge of the under tail coverts seen in *C. woodhousii*, Baird.

32. *MELOPELIA LEUCOPTERA*, Bonap.—A very abundant species.

33. *CHAMÆPELIA PASSERINA*? var. *PALLESCENS*, Baird.—A comparison of an extensive series of *Chamæpelia* from Cape St. Lucas, with a similar one from the Southern Atlantic States, shows constant differences in the shade of coloration which may be of importance. The pattern is the same, but the shades are considerably lighter. The chin and anal region are nearly white, the color of the latter considerably lighter than that of the belly anterior to it, instead of being much the same. The amethystine spots on the wings are smaller and apparently less numerous. The bill seems darker, all the hard portion being black, instead of this color being confined to the tip. The tertials do not appear to extend so far along the wing, falling short of the tip by about three-quarters of an inch, scarcely reaching to the end of the eighth primary, instead of to within less than half an inch or to the end of the fifth or sixth primary. The tarsi appear stouter in the Cape bird.

34. *LOPHORTYX CALIFORNICUS*, Bonap.

35. *GARZETTA THULA*, Bonap. ?—A white heron (No. 273) closely allied to *G. candidissima* appears to be immature, being without the plumose, occipital and dorsal feathers. It differs from *candidissima* in the longer bill (3.50 in. above, instead of 3.15), and in the shorter tarsi (3.60 instead of 4.05.) The 1859.]

toes too are shorter. The lower mandible is yellow along the entire line of the gonys, and laterally for the basal half. The toes, though evidently not black originally like the tarsi, are yet of a greenish black in the dried specimen, quite distinct from the decided yellowish of the other species.

An examination of the adult will be necessary to show whether this bird is really the *thula* of Chili or not. It is certainly larger and otherwise different from specimens brought from Chili by Lt. Gilliss.

36. *AEGIALITIS VOCIFERUS*, Cassin.

37. *CALIDRIS ARENARIA*, Illiger.

38. *FULICA AMERICANA*, Gmelin.

39. *GRACULUS DILOPHUS?* Gray.—Immature.

40. *THALASSIDROMA MELANIA*, Bonap.—A single specimen of this species was collected by Mr. Xantus. I have seen one other obtained near San Francisco by Mr. Gruber of that city.

41. *BLASIPUS HEERMANNI*, Bonaparte.—Young birds only collected.

42. *BRACHYRHAMPHUS HYPOLEUCUS*, Xantus.—The occurrence of a species of this genus as a summer visitor to a point so far south as Cape St. Lucas, or at the latitude of less than 23° N. is a fact of much interest, when we remember that the auks have all been considered more or less arctic birds. The affinities of the new species appear to be chiefly with *B. marmoratus*, although it lacks the white scapulars, has the inside of the wing white, instead of sooty, and much longer tarsi. Its relations to *B. brachypterus*, *kitlitzii* and *wrangellii* of Brandt it is difficult to determine from the short descriptions of that author. It comes closest to the description of *B. brachypterus*, but the tarsus is shorter than the middle toe, not longer.

MINERALOGICAL NOTES.—No. II.

BY WILLIAM JOHNSON TAYLOR.

The number of interesting minerals which have been referred to me by gentlemen of the Academy, are but partially described in the present paper. Descriptions and analyses of several minerals of interest, including at least one new species, I have been obliged to defer for a subsequent communication to the Academy.

CLAYITE—a new mineral.

This mineral is remarkable as being near galena in form and composition, being a sulphide of lead with about twenty-five per cent. of arsenic, antimony and copper, forming the third of a series of which galena is the first, cuproplumbite (found in an adjoining State, Chili) is second, and which contains some copper and sulphur, but not any antimony and arsenic. In the cuproplumbite the lead is partially replaced by copper, and in Clayite this also is the case, but a part of the sulphur is also replaced by antimony and arsenic.

Clayite is remarkable as containing so small a per centage of sulphur—between eight and nine per cent. only. It occurs in small monometric crystals, the predominating form of which appears to be a combination of the tetrahedron with the dodecahedron; they occur as a coating on a layer of quartz, about a thirty-second of an inch in thickness, which incrusts the massive portion of the mineral. This massive portion of the mineral is filled with minute quartz crystals, which are microscopic, but the presence of this quartz and the existence of minute fissures has permitted the mineral to be somewhat acted upon by the air, and to suffer a probably partial decomposition, as is evinced

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