

bling our Yellow-bunting of England), besides which vast numbers of *Caprimulgi* (*C. psalurus*, Azara) and ground-doves lay their eggs on the bare ground. I believe this species of *Mygale* feeds on these animals and their eggs at night. Just at close of day, when I have been hurrying home, not liking to be benighted on the pathless waste, I have surprised these monsters, who retreated within the mouths of their burrows on my approach."

MYGALE EMILIA. (Pl. XLIII.)

M. nigro-fusca, cephalothorace, duobusque articulis singulorum pedum late flavescenti-rubris.

Deep blackish-brown; the basal joint of chelicera with some scattered red hairs in front; the cephalothorax of a rich yellowish-red, the hairs short, close and velvet-like; the fourth and fifth joints of the legs clothed with yellowish-red hairs, the end of the fifth joint with many brown hairs; fourth joint of the first pair of legs, with the curiously hooked process near the end, also covered with red hairs, the under side of the fifth and sixth joints and the tarsi clothed with a close, dense, velvet pad. Body brown, with longish, scattered red hairs, which are deeper in hue than on the other parts.

Nomine Emilie dilectæ filie Henrici Verney, Equitis Baronetti de Cleydon, in comitatu de Buckingham, araneam hanc spectabilem, in Americâ Centrali a Bertholdo Seemann, Botanico celeberrimo, detectam in expeditione recenti, sub Henrico Kellett, Navarcho, insignire vult descriptor.

The figure, which is of the natural size, was drawn by Miss Spooner of Kentish Town.

July 8, 1856.

Dr. Gray, F.R.S., in the Chair.

The following papers were read:—

1. ON THE LAND AND FRESHWATER SHELLS OF KASHMIR AND TIBET, COLLECTED BY DR. T. THOMSON.

By S. P. WOODWARD, F.G.S.

These shells, which I received through Dr. J. D. Hooker and Sir Charles Lyell, were collected by Dr. Thomson in 1847-8, when he accompanied Major Cunningham and Capt. H. Strachey in "one of the most adventurous journeys ever made in the Himalaya*."

The shells of continental India are nearly all distinct from those

* Western Himalaya and Tibet; a Journey through the Mountains of Northern India. By Dr. Thomas Thomson. 8vo, London, 1852.

of Europe, and although far inferior in beauty and variety to those of the Asiatic Islands, have yet a marked character, owing to the admixture of tropical forms and especially to the great development of the operculated genera (*Cyclostomidæ*), which are almost unknown in our quarter of the world*.

It was, therefore, a matter of considerable interest to ascertain what land and freshwater shells occur in the remote regions of Kashmir and Tibet, and somewhat surprising to find, that of about 22 sorts collected by Dr. Thomson, one-half were British species, and the rest of the commonest and most widely diffused Indian forms.

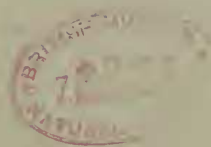
The species marked * are European.

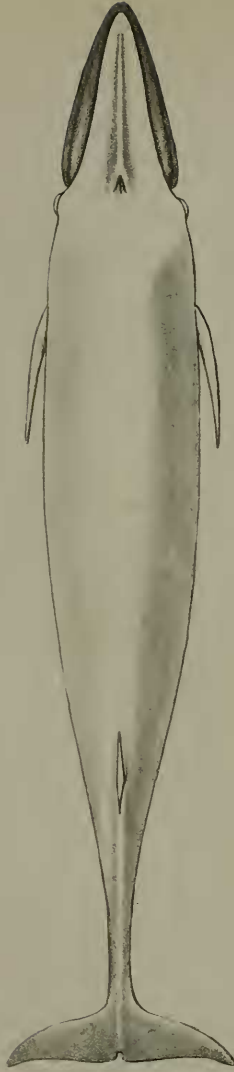
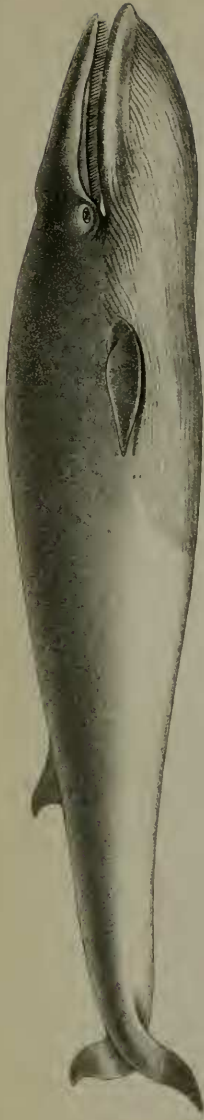
- * *Helix pulchella*, small var., *subfossil*. Iskardo, Tibet (Europe, N. America).
 * — *costata*, large var., recent. Iskardo, 7200 feet.
 * *Helicella nitida*. Near Iskardo (Europe, N. America).
Bulimus candellaris, Pfr. Takht i Suliman, Kashmir.
 — *segregatus*, small var. Kashmir.
 * *Zua lubrica (subfossil)*. Iskardo (Europe, N. America).
Pupa Huttoniana, Benson. Iskardo (also *subfossil*).
 * *Succinea Pfeifferi*, var. (*longiscata*, Morillet?). Kashmir.
 * *Linnæa stagnalis*. Kashmir (Europe; N. America, Oregon).
 * — *peregra*. Pitak, Tibet; Kashmir.
 —, var. *Hookeri*. Iskardo and Nubra, Tibet (18,000 feet).
 * — *auricularia*. Iskardo; Thogji Lake (*subfossil*).
 —, sp. Kashmir (resembling the Australian *L. simulata*).
 * — *truncatula*, Müll. Iskardo, in damp moss (also found at Candahar, Affghanistan; at Madeira, and in the U. States).
 — *luteola*, Lam. (*succinea*, Dh.). Islamabad, Kashmir (also Prome, Burmah).
 — *acuminata*, Lam. Jamu hills.
Planorbis Coromandelicus, Fabr. Jamu hills; Islamabad, Kashmir (also Ceylon and Malacca).
 — *nanus*, Benson; *subfossil*. Tsoral Lake, Tibet (Capt. H. Strachey).
 —, sp. Pitak and Iskardo; Tertse, Nubra, in lacustrine clay.
Paludina Bengalensis, var. Jamu hills, Kashmir.
 * *Valvata piscinalis (subfossil)*. Kashmir; Tsoral Lake, Tibet.
 * *Cyrena fluminalis*, Müll. † (*Cashmiriensis*, Dh.). Avantipur, Kashmir.
Cyclas (Pisidium), sp., *subfossil*. Thogji Lake, Tibet.

These specimens have been submitted to the examination of Mr. W. H. Benson, who is unsurpassed in his critical acquaintance with Indian shells, and especially those of the Western Himalaya.

* Mr. Benson states that *Helix Bactriana* (Hutton), found in Affghanistan, is closely allied to the European *H. strigella*.

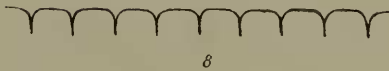
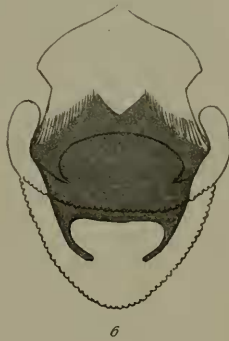
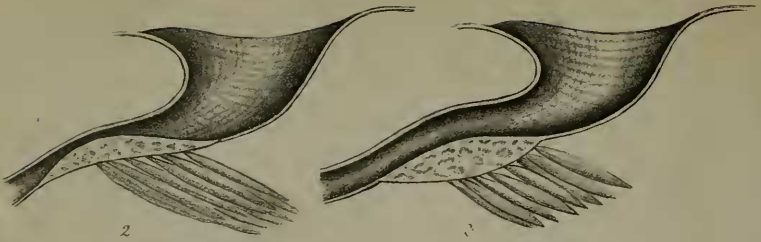
† Varieties of this shell are found in Sicily, Palestine, the Nile, and all the rivers of the East. These varieties have been regarded as constituting about twenty distinct species; e. g. *C. Euphratica*, Bronn; *ambigua*, Dh.; *Cor*, Lam.; *consobrina*, Caill.; *triangularis*, Dh.; *Panormitana*, Bivon, &c. When fossil, it is the *C. trigonula*, Searles Wood; *C. Gemmellarii*, Phi.





PHYSALUS DUGUIDII. Heedle





PHYSALUS DUGUIDII Heddle

1 Blow holes 2.3. Blow holes & Pad

4 5 Blow holes closed sideways.

6 Jaws. 8 Plicæ contracted & stretched

Helix pulchella and *Zua lubrica* were only obtained in the condition of "dead shells" from the alluvial plains of Iskardo and Kashmir.

The *Pupa* and *Bulinus candelaris*, *Limnæa auricularia* and *Valvata piscinalis*, were found both recent and subfossil.

Limnæa auricularia occurred in prodigious abundance in the alluvial clay around the salt-lake of Thogji, at the height of 150 feet above its present level. There are no longer any living shell-fish in its waters, and Dr. Thomson remarks, "it may fairly be inferred that the lake was quite fresh at the time when it was inhabited by *Limnæa*." The increase of the height of the surface of the water to the small amount of 150 feet, appears to have admitted of its discharging its waters along the course of an open valley into one of the tributaries of the Zamkar river (p. 173).

Everywhere to the northward of Tibet, from the Aral sea to Chinese Tartary, is a country of small salt-lakes having no outlet; and this region divides Northern India from the Siberian steppes, in which land and freshwater shells of *Germanic species* are known to occur.

Westward, however, the ranges of the Hindoo Koosh are prolonged through Persia to the Caucasus, and form a continuous route to the Lusitanian region.

Since the shells which have been mentioned as English species occurring in Tibet, are also common to the South of Europe, they are rather to be regarded as *Lusitanian* than *Germanic species*.

The land species (*Zua*, *Helix*, *Helicella* and *Succinea*) are, however, amongst the most ancient inhabitants of this island, being found in the newer-pliocene deposits of the Thames valley, associated with the same *Valvata* and the same species of *Cyrena*, and with remains of an Elephant (*E. meridionalis*) and a Rhinoceros (*R. leptorhinus*), which are not only extinct, but were succeeded by other races of the same animals (*Elephas primigenius* and *Rhinoceros tichorhinus*), before they finally disappeared from this portion of the globe.

If, therefore, the small land shells of our newer tertiaries originally migrated into this country from the East, we must ascribe to their occupancy of the lofty plains of Kashmir and Tibet a very high antiquity compared with any of the monuments which Man himself has reared, even in the country most usually regarded as the cradle of his race.

2. ON A WHALE OF THE GENUS *PHYSALUS*, GRAY, CAPTURED IN ORKNEY. BY ROBERT HEDDLE.

(Mammalia, Pl. XLIV. XLV.)

A Whale of the genus *Physalus* of Dr. Gray was stranded on the small island of Laman or Lambholm in Orkney on the 9th of March ultimo.

It was afterwards towed from Laman, and beached upon the shore of Scapa Bay, about two miles from Kirkwall.

The individual was a female.

The following measurements were made with the greatest care by Mr. George Petrie and myself:—

	ft.	in.
Length from point of lower jaw to notch in tail ..	50	0
Girth beneath pectorals	23	6
" at 20 feet from point of lower jaw	19	3
" close behind dorsal	11	7
" 7 feet behind dorsal	6	0
" close to tail	5	0
Depth at 3 feet from end of vertebral column....	2	0
" at 9 feet from end of vertebral column....	3	10
Thickness at 9 feet from end of vertebral column..	1	6
Thickness where thinnest	0	10
Between upper angles of pectorals (over the back)	10	0
Keel extending above from commencement of tail..	16	0
Keel extending below from commencement of tail..	10	0
Point of lower jaw to termination of plicæ	26	0
" of lower jaw to reproductory organ	30	0
" of lower jaw to umbilicus	24	6
Length of pectoral from tip to anterior junction with body	5	9
Length of pectoral from tip to posterior junction with body	4	9
Breadth of pectoral	1	7
Angle of mouth to anterior junction of pectoral with trunk	4	6
Centre of eye to anterior junction of pectoral with trunk	5	3
Tip of upper jaw (snout) to anterior junction of pectoral with trunk	14	4
Posterior curve of dorsal to posterior junction of pectoral	23	0
Base of dorsal	2	9
Height of dorsal (perpendicular from its tip)	1	9
Anterior of dorsal from snout	35	9
Posterior curve of dorsal from tip of tail	14	0
Width of tail	10	3
Depth of notch in tail	0	5
Between angles of mouth round the throat	11	0
Point of lower jaw to angle of mouth	11	3
" of snout to angle of mouth	9	0
Depth of under jaw (including lip) where greatest	1	8
" of under jaw 3 feet from tip	1	2
Projection of under jaw from beneath the snout ..	0	6
Across insertions of baleen $7\frac{1}{2}$ feet from snout....	3	4
Length of longest or " sample " baleen	1	8
" of baleen at snout	0	6

	ft.	in.
Breadth of sample at base	0	9
Projection of sample over upper lip	0	6
Centre of eye to snout	9	5
„ of eye to posterior angle of blowhole	3	5
Posterior of blowholes in advance of a line joining the eyes	0	9
Eye to eye	6	10
Centre of eye to base of nearest baleen	1	8
Snout to spiracles	7	9
Each spiracle in length	0	10
Length of blind slit between spiracles	0	8 $\frac{1}{2}$
Between near points of spiracles	0	1 $\frac{1}{2}$
Between divergent points of spiracles	0	9
Ear behind eye	2	9
Length of depression of external ear	0	1 $\frac{3}{4}$
Breadth of depression of external ear	0	$\frac{1}{4}$
Diameter of perforation of ear	0	$\frac{3}{16}$
Length of reproductory organ, including anus	3	0
Length of mammary slits	0	10

The accompanying drawings, in which every point was determined by the measurements, give a perfectly correct idea of the proportions of the animal. Consequently, further dimensions may be taken from them, due allowance being made for the curves.

The external *ear*, which was difficult of detection, consisted of an aperture capable of admitting a quill, situated in a very shallow groove of the dimensions given above. When the blubber was removed, the aperture was continued, in the immediate vicinity of a strong glandular substance, of a cylindrical form, 2 inches in diameter, passing into the skull.

The *blowholes* were situated in a hollow on the summit of a low rounded eminence, immediately in front of a depression directly over the eyes. When first seen, this latter depression was hardly apparent, and seems to owe its existence partly to the falling in of the integuments after death. The relative position of the spiracles is given in Pl. XLV. fig. 1. Between the spiracles was a shallow groove, at first sight resembling a third opening, beginning 1 inch before the anterior commissures of the spiracles, and continued to an imaginary line joining their posterior extremities.

The sides of the blowholes, which lay in close juxtaposition, could, from the elasticity of the parts, be separated to the extent of 3 or 4 inches, without affecting the extremities of the openings.

Pl. XLV. fig. 2, shows a section of one of the spiracles, laid open through the commissures, together with the retracted pad or valve, which, when set free, closes the nares, as represented in fig. 3. The pad consisted of a tough, fatty substance, and was retracted by a strong muscle, which had its attachments in a deep groove in the bone of the upper jaw. When the spiracles were partially excised, the working of this beautiful apparatus was easily exhibited by grasping with the hands the strong muscle, and drawing out the

pad, which, on being set free, returned to its place in the nares with a very audible "thud." The *nares*, each 4 inches in their horizontal diameter, were protected above and at the sides by cartilaginous arches, which extended nearly to the surface of the spiracles posteriorly, and united at a point a little anterior to the section shown in figs. 4 and 5, cut transversely to the spiracles; fig. 4 representing the dilated, fig. 5 the closed access to the lungs.

The whole lining of the spiracles, breathing canals, and bronchial cavities, was of a deep black.

The septum immediately between the two *nares* was membranous, attached to the line of union of the cartilaginous arches before mentioned.

From the blowholes a ridge composed of a tendonous fatty substance extended, gradually disappearing ere it reached the snout.

The *eyes* were situated on bony prominences, which projected outwards and downwards from the line of the head and upper jaw. The external opening of the eye was about 4 inches. The *ball* 5 inches. The *conjunctiva* whitish, and the *iris* very dark brown. The excised crystalline lens measured two-thirds of an inch in diameter.

The bones of the lower jaw were covered to nearly half of their apparent depth by strong, firm lips, turned inwards superiorly. The jaw at no point projected much over the folds on the throat, and beneath the eye passed away imperceptibly into the neighbouring surface. The rounded upper surface of the lips fitted accurately, when the mouth was closed, into corresponding retuse hollows in the upper jaw, extending two-thirds of the distance from the eye to the snout.

The *baleen* extended from within 4 inches from the snout to the interior angles of the mouth. The plates were largest halfway between these points. Their exterior outline was considerably falcate, causing the points of the plates to project, where longest, 6 inches past the edge of the upper jaw.

The back part of the mouth, in the neighbourhood of the throat, was thinly covered with soft white hairs, inserted on the plaited and wrinkled skin.

Fig. 6 represents an ideal section through both jaws, partially opened, showing the palatal ridge, the projecting baleen, and the overlapping under-lips.

The tongue is represented lying in the distended pouch, and by the red lines as seen in the same pouch when drawn upwards to the jaws.

The baleen towards the snout gradually gave place to narrower plates, three or four occupying the place of one. This change of form commenced at the inside. At the snout, the plates were still more broken up, there assuming the appearance of small rods of baleen, of the thickness of a crow-quill, slightly compressed, and each tipped by a tuft of long white bristles. The baleen completed the circuit of the snout, at a distance of 4 inches within the upper lip. At the snout, the base of the baleen was 1 inch in width, gradually increasing until, where the largest plates were inserted, it at-

tained the breadth of 9 inches, whence it decreased to a rounded point at the interior angles of the mouth. Here the baleen was entirely resolved into white hair, which took its rise from the gum, without the intervention of the quill-like rods of the anterior extremity.

The surface of the plates was longitudinally striated: their colour for one-third of their breadth from the outer margin brown, sometimes in one broad shade, sometimes more or less banded lengthwise, in either case leaving the interior surface of the plates of a yellowish-white, tinged slightly with green, occasionally dashed with pale rose-colour, with here and there a stripe of brown. From the outside no colour but the white was visible, except at the snout, where the plates and tufts, even to the outer margin, were in some places a dirty white, in some almost black.

The whole inner edges of the baleen were split up into coarse but pliant white hair.

The *gum* ("cheese" of the whalefisher) was from 2 to 4 inches thick, between which and the bone of the jaw intervened a strong callous bed of muscular substance, two-thirds of an inch thick.

The *tongue* was above of a flesh colour, and beneath, where its substance united with the lining of the pouch, of a leaden grey. It had no edges, the colour being the only means of distinguishing its upper from its under surface. The looseness of the tissue on its lower side enabled the animal to sweep the whole under surface of the baleen with the tip of the tongue, carrying any adhering food to the throat. The actual tip was not free for more than 10 inches; but, as when drawn back towards the gape, it was impossible to define the limits of the lower side of the tongue and the lining of the pouch: it seemed to be of much greater length. When retracted the tongue filled with its huge rounded mass the posterior cavity of the mouth, the tip projecting upwards, and the substance of the under side tightened from the base of the tip to the point of the under jaw.

The *throat* easily admitted the closed hand.

The *trunk* joined the head with no perceptible line of union, and, with the exception of a slight depression behind the spiracles, and the protuberance of the dorsal fin, the outline preserved an even and beautiful curve from head to tail. Beginning 2 feet before the dorsal fin, a strong ridge passed along the back, gradually diminishing till it reached the end of the vertebral column. A still bolder ventral ridge commenced 10 feet from the tail, and terminated at the same point.

The expansions of the tail were continued 2 or 3 feet along the sides of the trunk, there passing away, and giving along with the dorsal and ventral carinæ a rhomboidal form to that part of the animal. These keels consisted entirely of a fatty tendinous substance, each permeated through its entire length by strong round tendons 1 inch in diameter. On the removal of the ridges, the body beneath became of the same rounded form as the rest of the trunk.

The *epidermis* was $\frac{1}{16}$ th of an inch thick, easily torn, and finely striated, except on the fins and tail, and on the jaws, lips and such

parts. Where black, much of the pigment could be removed by washing, and from the inner surface was readily communicated to the fingers.

The true blubber on the back and sides measured on an average 2 inches in thickness. On the throat where the *plicæ* occurred, it became tendinous and tough, and, though removed, was not expected to yield much oil.

The whole posterior part of the body was beset by strong round tendons, about an inch thick, originating as flat tendons within the muscles above the pectorals.

The extent and direction of the *plicæ* on the throat and abdomen are shown in the drawings of the animal. Pl. XLV. fig. 8, represents sections of the stretched and unstretched surface of the *plicæ*. At those portions of the throat and belly which required more capability of distention than the rest, furrows supplementary to the general arrangement of the *plicæ* were introduced. These however invariably disappeared ere they reached the termination of the regular *plicæ*, and were inserted unsymmetrically. The furrows continued of their full depth to their termination on the abdomen.

Where the body of the animal was black, the furrows and their interspaces were black also, being there covered with skin of the same texture as that of the body. Where the black of the body began to *wash off* into the white of the lower parts, the furrows were black and the interspaces pure white. On the lower surface, again, where the sole apparent colour was white, the *plicæ* were found on separation to be lined with a rosy, longitudinally striated, transversely wrinkled epidermis. The depth of the furrows varied excessively, being, in some parts, when the pouch was undistended, nearly $1\frac{1}{2}$ inches deep, while on the jaws and between the eye and pectoral, they were so shallow as hardly to bear measurement at all. When the pouch was distended, the *plicæ* were partially obliterated, their hollows becoming nearly as high as the surface of their highest prominences.

The normal breadth of the interspaces between the furrows was about 2 inches. Near the chin, however, in some places three or four occurred in the space of an inch, the skin being there very soft and pliant. The ridge between the two furrows which passed mesially along the throat and abdomen was broader than the rest, the furrows diverging slightly towards their posterior termination, where the scarcely perceptible umbilicus was situated, thereafter converging as shown in the figure.

The *reproductive organs* were situated 4 feet behind the termination of the *plicæ*, and immediately between the slits into which the *mammæ* were retracted. The *mammæ* were of a yellowish flesh-colour, 11 inches long and 4 inches in diameter, ending in lax nipples 2 inches in diameter.

The *uterus* extended in the body of the Whale 5 feet forwards from the opening. It did not contain a foetus. The *anus* was 2 feet 10 inches behind the anterior commissure of the reproductive organ.

Decomposition prevented such a careful examination of the interior of the animal as might have been desired. The *heart* was 4 feet in length, 3 feet at its greatest breadth. The *venæ cavæ* 4 inches in diameter. The *aorta* $3\frac{1}{2}$ inches thick. The *liver* resembled in consistence that of the terrestrial Mammalia, and was of great size.

Near the base of the tongue lay two large bodies of glandular appearance, much resembling the salivary glands of quadrupeds, each of which would have filled a bushel measure. The *lungs* did not appear of great proportional size; the bronchial tubes were lined with black membrane.

Near the vertebral column could be imperfectly traced the plexus of arteries which forms the reservoir of blood during the prolonged divings of the Whale. Much extravasated blood and hastening decomposition interfered with a proper investigation of its course and structure.

The vertebral formula was as follows:—

Cervical 7, Dorsal 15, Remains 40. Total 62.

Circumstances prevented me from distinguishing the lumbar from the caudal vertebræ, but the numbers above given are absolutely correct.

The last vertebra was not larger than a walnut, and part of its bulk was cartilage. Its articulation was, however, very distinct.

The last six vertebræ diminished in size very rapidly, much more decrease taking place in their dimensions than proportionally in any other part of the spine.

There were fifteen pairs of ribs. The first pair simple, the second, third and fourth with necks, directed towards, but not reaching, the bodies of the vertebræ. The rest simple.

The greatest length of the *cranium* was $11\frac{1}{2}$ feet. The greatest length of the bone of the under jaw $11\frac{1}{2}$ feet.

From the tip of the pectoral to the head of the *humerus* measured 6 feet 3 inches.

The colour of the back of the head and of the sides to a line passing from the tail beneath the pectoral, black.

The jaws, and upper and under sides of both pectorals and tail, also black.

The black *washed off* at the sides into a brilliant white, of which colour were all the other parts, except, as before mentioned, the hollows of the *plicæ*.

Scattered irregularly over the back were greyish spots, from three to four in a square foot, much resembling the appearance that would have been produced by touching the skin with a slightly whitened finger. Their shortest diameter was transverse to the body of the animal, and towards their anterior end they exhibited a nucleus whiter than their general hue. It must be noted, that these spots, though sufficiently obvious under certain lights and on close inspection, were not apparent at a little distance, and did not in the smallest degree interfere with the general intense black of the upper parts.

When viewed obliquely, on the other hand, the whole dark portion of the animal seemed a dull leaden grey; a deception arising,

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no doubt, from the refraction of the light from the polished surface. Even when near to the object, those parts not directly opposite to the eye seemed much paler than they really were.

As a species of *Physalus* has been described as "slate-grey," and as, despite its real jetty hue, casual observers who had seen the Laman Whale, spoke afterwards of its grey colour, I have thought this circumstance worthy of mention.

Since this paper was read, the following additional notes have been addressed by the author to Dr. Gray, under the dates of July 16, Aug. 16, and Sept. 24.

16th July, 1856.

Oddly enough, I had not been two hours in Orkney ere I heard of another whale being ashore. On the first opportunity I started for Copinshay, where I found it had beached itself a week previously. The finders had already flensed it, and it was lying in a position most unfavourable for examination. The back was down, the tide alongside the body, and it was impossible to get at the dorsal fin. It is a male, and I feel sure the same species as the one I described; most probably the mate of that individual.

As it must be of great importance to compare a specimen from the same locality as, and probably the mate of, the last, I send you the only measurements I could make.

I would respectfully direct your attention to the fact, that in both this and the female formerly examined, the pectoral, measured from tip to head of humerus, is *exactly* $\frac{3}{5}$ ths of the whole length of the body. This should be the length taken from the pectoral, as it is impossible to know where the true union with the body is, there being of course an anterior and posterior junction.

The head in each bears very nearly the same proportions to the whole length.

You can imagine with what keenness I made the last few cuts in the putrid mass of carrion, which exposed clearly the mass of cervical vertebræ;—two whales from the same station, of nearly the same size, at nearly the same time, alike in external appearance and in the exact proportion of pectoral, one a male and the other a female. And there the bones lay—so like, as I said, that a drawing of the one would do for a likeness of the other.

I feel sure that you will agree with me, that the variations before-mentioned do not weaken the identity of these individuals.

As soon as the bones are clean I shall pack them carefully, and send them up. I regret that the fearful state of the carcase prevented me from counting the ribs or vertebræ. Indeed it was with the utmost difficulty that I could get any one to lend a hand in securing the bones, so awful was the smell and condition, and so huge was the mass of decomposed flesh to be removed,—the whale, unfortunately, lying on its back, while no power on earth could have turned it in its then condition. However, my own repugnances vanished at the call of Science, and example works wonders.

16th Aug. 1856.

After an unusually hard day's work, I succeeded in safely detaching the cervical vertebræ of the whale ashore in Copinshay. They are at present safely lying in the sea within a tidal enclosure at Kirkwall, till the crabs and gammari, and such influences, remove the last portions of muscle from them. I shall take the whet off your curiosity by telling you that a drawing of the cervical vertebræ of the whale I formerly examined would do for these bones. Though there are some minor differences on a close examination, these are all on the lower side of the bones, viewing them from the direction opposite to the spinous processes. And I think, when you get the specimen, you will feel convinced, on comparing it with that of a Laman whale, that these minor differences are unimportant, and cannot be allowed to interfere with the specific identity of the two whales.

These differences are as follows:—In the Laman whale the superior and inferior transverse processes of the 5th cervical vertebra are united, and the lower process of the 6th short; whereas, in the Copinshay whale, the transverse processes of the 5th are not united, and the lower process of the 6th is as long as those of the 3rd, 4th, and 5th.

Still, with deference I submit, that when all the other resemblances are taken into account, these variations cannot be considered essential. I think it will be more easy to point out specific characters in the bones by the union or disunion of the processes of the 2nd cervical vertebra; by the comparative length of processes as regards the body of the vertebræ, and by the form and angular aperture of ring, than by the circumstance of the lateral processes after the second being united or not. At any rate, I cannot readily imagine that the union or separation of the 5th, and still less so the length of the lower process of the 6th, can be of great value. In this last, the specimen in the Zoological Gardens of Edinburgh and your own set up in the Museum differ, while they certainly resemble each other in every other way, and are evidently of the same species.

I feel sure, that drawings of the dorsal aspect of all these bones of all the species known to you will show considerable and tangible differences, especially in the comparative spread of the processes as you approach the dorsals; in their varying progression in thickness,—gradual in the Laman and Copinshay whales, sudden from the 7th cervical to the 1st dorsal in *P. antiquorum*.

Our Orkney whales seem to resemble your *P. boops* in some respects, but then the processes are longer, and the wing of the 2nd cervical in the Orkney whales with its perforation is very different from the short development of the 2nd cervical vertebra in *P. boops*. In *P. antiquorum* again, the processes rise from the plane of the body of the vertebræ somewhat thus:—



in the Laman and Copinshay whale, they *fall* somewhat thus :—



In fact, in some points our Orkney whales seem to connect the characters of the two sections of your genus *Physalus*, resembling, however, *P. boops* more than *P. antiquorum*. In my poor opinion, nevertheless, there are amply sufficient characters for separation, and I feel that, when placed side by side, the two specimens I have been so fortunate as to put into your hands will help much to clear up this cetacean mystery, as well as to show what characters are permanent and worthy of selection.

I have some plates of whalebone, which you shall have by and by. It varies slightly in shape and colour from that of the Laman whale, and indeed there is danger, *I think*, in forming a *specific* character from the baleen.

The colours on the whale were, according to the description of the finders, identical with those of the Laman whale; the under jaw a little wider. I shall make a sketch of the form from the measurements, and transmit it to you.

	ft.	in.
Tip of under jaw to notch in tail	45	6
Tip of upper jaw to eye	8	2
" " to anterior of pectoral	15	0
Tip of lower jaw to genital (penis)	28	0
" " to anus	31	5
From pectoral to pectoral under belly	8	0
Length of pectoral to anterior junction	4	6
Breadth of pectoral	1	0
Length of pectoral (tip to head of humerus)	5	6
Width of tail	9	6
Length of cranium (as nearly as possible)	10	4

"Back black; belly white."

The description of the cervical vertebræ would form a useful appendix to that of the Laman whale. The measurements may be meantime useful, as showing the similarity of proportion. I feel convinced that the two individuals belong to one species, and hope that the neck vertebræ will bear out that opinion. I shall be delighted to hear your wishes in the matter, and to carry them out.

Sept. 24, 1856.

I propose despatching and booking by first packet the cervical vertebræ, &c. of the Copinshay whale. I am on the point of starting for Canada, and I trust they will reach you safe. They are in capital condition and keeping, and will, I am sure, give you assistance

in re Rorqual. I enclose herewith some notes regarding the Caithness (Nybster) whale.

As regards the ribs of Rorquals, as exemplified in the Copinshay and Laman whale, allow me to call your own attention, and that of cetaceologists and others to the following fact.

The first pair of ribs is not articulated to the first dorsal vertebra, nor to any vertebra whatever; but the first ribs have their ends buried in a mass of ligament, which connects all the upper lateral processes of the cervical and the first dorsal vertebræ together.

No articulating surface exists on these processes on the first dorsal vertebra; the articulating surfaces are on the other hand well marked on all the other dorsal vertebræ.

I am certain that you will perceive some value in this observation, of the accuracy of which I am positive, being put on the alert by observing it in the first specimen I examined. One sees the use of the lateral apophyses and their great development in some species.

Notes on Nybster Whale.

I was unable to do more in the examination of the neck than *feel* for some of the characteristic processes. The broad wing of the second cervical was perforated by a hole as in the Copinshay and Laman whales, and in every particular that I could ascertain the vertebræ corresponded with those of these individuals. The external characters, colours, &c. also corresponded. The whale was afloat, being in a creek where the tide did not leave it. Its length, which I was too late to measure in person, was, I am assured, 65 to 68 feet; its pectoral *from the head of humerus* (the only *useful* measurement) nearly 8 feet. The length of the cranium was 15 feet. The whale was for a finner exceedingly fat, the blubber or "speck" being 8 to 10 inches in thickness. These were all the measurements I could make, from the condition of the carcase.

On my passage home, amid the thousand herring-boats of Wick, lying becalmed in a glassy sea, we were exceedingly interested by the movements of a very large Finner, apparently of the same species as the one I had just left. It rushed round us in every direction with its upper jaw above water, blowing with great violence and noise, and diving, sometimes tranquilly, sometimes in a seething wave, created by its fins and tail.

It was evidently feeding on herrings, as every now and then it would rush headlong into portions of the sea where the smooth surface was broken by the shoals of fish.

The *blowholes were at times flat and unprojecting, at other times boldly protuberant*, the animal evidently having the power of raising or depressing these organs. As the protuberance of the spiracles has been thought characteristic of species, this is worth noting. The dorsal fin was exactly outlined like those of the Rorquals previously examined. The contour of the snout or upper jaw also exactly resembled that of the Copinshay, Laman, and Nybster whales. This whale was computed by the boatmen and myself to be at least as large as the Nybster whale. I have no manner of doubt but that

these four whales were of one species. Certainly the Nybster whale was not *Physalus antiquorum*, therefore *P. antiquorum* is not alone in *exceeding* 60 feet in length, a dimension supposed to be confined to that species.

The fin-whales of Orkney and Caithness, every season observed in pursuit of herrings, would seem in all probability to be of the species of which you have received portions. They are not *P. boops*, for three out of four specimens captured (and the fourth was *not* killed) agree with each other, and differ from *P. boops* in the upper and lower lateral processes of the second cervical vertebra being united, leaving a subcentral foramen.

They will no doubt prove to be of a new species, though unexamined individuals may have doubtless come ashore in Orkney over and over again.

3. DESCRIPTIONS OF SHELLS FROM THE GULF OF CALIFORNIA,
AND THE PACIFIC COASTS OF MEXICO AND CALIFORNIA.
PART II. BY A. A. GOULD, M.D., AND PHILIP P. CAR-
PENTER.

Dr. Gould, the well-known author of the Rep. Invert. Mass. and the U. S. Exp. Shells, having most obligingly sent over the whole of his collections from the Pacific shores of N. America, in order to furnish materials for my Report to the British Association, there have appeared among them several shells not to be identified with recorded species. Of some of these Dr. Gould enclosed names and diagnoses. For the remainder of the following paper I am alone responsible. Most of the new species in this collection were described by Dr. Gould in the Proceedings of the Boston N. H. Society; and have been published in a separate form with three plates. I have therefore regarded this communication as a supplement to that paper, and have adopted the same title. The references apply to it, unless otherwise expressed.

P. P. C.

Bristol, June 21st, 1856.

1. PHOLADIDEA OVOIDEA, Gould.

Pholas ovoidea, Mex. & Cal. Shells, pt. 1. p. 15. pl. 15. f. 1.

Hab. San Diego (*Lieut. Green*). Mus. Gould.

2. PETRICOLA ROBUSTA, Sow.

Petricola bulbosa, Gould, p. 16. pl. 15. f. 5; B.M. Mazatlan Cat. p. 17. no. 24.

3. CORBULA POLYCHROMA, n. s.

C. t. gibbosa, transversa, solida; postice angulata, carinulis duabus, altera ad marginem ventralem, altera juxta cicatr. musc. aleuntibus; sub superficiem externam concentricè sulca-

tam, griseam, aurantia, purpureo radiata; intus purpurea, dent. card. obtusis, cicatr. musc. distinctis, sinu pallii minimo.

Long. '37, lat. '53, alt. '27.

Hab. In Sinu Californiensi (*Lieut. Shipley* in Mus. Cuming); Sta. Barbara (*Col. Jewett* in Mus. Gould).

Of the general appearance of *C. bicarinata*, but much less gibbous, less angulated, and highly coloured. It resembles, but appears distinct from, one of the Claiborne fossils in Mr. Nuttall's collection. Col. Jewett's specimens were all dead valves.

4. LYONSIA NITIDA, Gould.

Osteodesma nitidum, Gould, p. 17. pl. 15. f. 6 = (probably) *Lyonisia Californica*, Conr. jun.

Hab. Sta. Barbara (*Lieut. Green*). Mus. Gould.

5. SEMELE FLAVESCENS, Gould.

Amphidesma flavescens, Gould, p. 19.

Semele proxima, B. M. Maz. Cat. p. 28. no. 40. Mus. Cum. pars, non C. B. Adams nec Mus. Cum. pars.

The Mazatlan species was identified from the supposed types in the Cumingian collection. On finding Dr. Gould's shell identical, it appeared extraordinary that he should have re-described one of Prof. Adams' species. In another drawer of Mr. Cuming's cabinet, however, appeared another shell, also named *Semele proxima*, C. B. Ad., which is probably the real type. It is larger and more pointed at the beaks than the present species. Several of the described species of *Semele* are extremely similar. So long, however, as they are kept distinct, the Mazatlan shells must rank under the present name, and not under that of Prof. Adams, under which they have been freely distributed.

6. SANGUINOLARIA MINIATA, Gould.

Tellina miniata, Gould, Proc. B. N. H. S. Nov. 1851; Mex. &c., p. 24. pl. 16. f. 1.

Sanguinolaria purpurea, Desh. P. Z. S. 1854, p. 346. no. 137; B. M. Maz. Cat. p. 31. no. 46.

Hab. San Juan (*Lieut. Green*).

Although I have not seen the type of Dr. Gould's shell, there can hardly be a doubt that it is the same as that of Desh., and therefore has priority over the name adopted in the B.M. Cat. While the earlier sheets of that work were passing through the press, I had only the advantage of Dr. Gould's plates, without print or dates. A more rapid intercommunication of materials between naturalists in different countries is greatly to be desired.

7. TELLINA TERSA, Gould, p. 25. pl. 16. f. 2.

Hab. Panama (*Jewett*). Mus. Gould.

8. TELLINA PURA, Gould, p. 25. pl. 16. f. 3.

Hab. Panama (*Jewett*). Mus. Gould.

9. TELLINA GEMMA, Gould, p. 26. pl. 16. f. 5.

Hab. San Juan (Green). Mus. Gould.

10. STRIGILLA CARNARIA, Linn.

Tellina (*Strigilla*) *fucata*, Gould, p. 26. pl. 16. f. 4; Proc. B. S. N. H. 1851, p. 91.

Strigilla (*Tellina*) *carnaria*, B.M. Maz. Cat. p. 39. no. 66.
Strigilla *miniata*, Gould's Plates, MS.

11. DONAX FLEXUOSUS, Gould, p. 21. pl. 15. f. 8.

Hab. Sta. Barbara (Jewett). Mus. Gould.

A comparison of types proves that this is distinct from all varieties of *D. punctato-striatus*. From the figure alone they were supposed identical; vide B.M. Maz. Cat. p. 44. no. 73.

12. DONAX CALIFORNICUS, Conr.

Donax obesus, Gould, p. 21. pl. 15. f. 9. (Non *D. Californicus*, Desh., vide B.M. Maz. Cat. p. 47. no. 76.—N.B. The *D. culminatus*, no. 72 of the same catalogue, is proved from types to be the *D. rostratus* of C. B. Ad.)

13. GNATHODON MENDICA, Gould.

Mactra mendica, Gould, Proc. B. N. H. S. Nov. 1851; Mex. &c. p. 20. pl. 15. f. 4.

Gnathodon trigona, Petit, B.M. Maz. Cat. p. 52. no. 81.

14. MACTRA EXOLETA, Gray, B.M. Maz. Cat. p. 50. no. 78.

Lutraria ventricosa, Gould, p. 17.

15. MACTRA UNDULATA, Gould.

Lutraria undulata, Gould, p. 18. pl. 15. f. 7.

This shell is most closely related to *M. elegans*, Sow. Tank. Cat. App.; but I do not venture to unite them, without seeing the types.

16. TAPES GRACILIS, Gould, MS.

"*T. t. parva, tenui, transversa, elongato-ovata, inæquilaterali; albida, obsolete fusco radiata, et ad aream dorsalem posticam fuscata, concentricè striulata; extremitatibus rotundatis; intus candida.*

"Long. .75, alt. .5, lat. .12 poll.

"Resembles *T. florida* and *T. geographica*, but is less angular and less inæquilateral."—Gould, MS.

Hab. San Pedro; legit *W. P. Blake* *.

17. TAPES TENERRIMA, n. s.

T. t. tenerrima, albido-fusca, obovali, compressa; marginibus æqualiter excurvatis; striulis radiantibus creberrimis, anticæ

* Mr. Blake's collections, along with Dr. Webb's, do not appear to have been made during the Mexican war.

et postice fortioribus, et lirulis acutis concentricis, plus minusve distantibus, eleganter ornata; lunula vix stria majore definita; intus, dent. card. iii. radiantibus, quorum valva in altera ii. altera i. bifidi sunt; sinu pallii maximo, elongato, lateribus sub-erectis, parum divergentibus, apice cicatr. ant. contiguo, subrotundato; margine vix crenulato.

Long. .94, lat. 1.13, alt. .38.

Hab. Panama; legit *Col. Jewett*. Mus. Gould.

Of this extremely elegant species, the two specimens sent were broken in transit. It is recognized at once by its fragility and delicate sculpture.

18. TRIGONA TANTILLA, Gould.

Venus tantilla, Gould, p. 33. pl. 15. f. 10.

Hab. Sta Barbara (*Jewett*). Mus. Gould.

19. CYCLINA SUBQUADRATA, Hanl.—B.M.Maz. Cat. p. 66. no. 91.

Arthemis saccata, Gould, p. 23. pl. 15. f. 2.

20. CARDIUM LUTEOLABRUM, Gould, Mex. &c. p. 28.

C. xanthocheilum, Gould, MS. Cat.

21. CARDIUM CRUENTATUM, Gould, M.S.

“*C. t. parva, tenui, transversim rotundato-ovata, ventricosa, in-æquilaterali; levi et nitida; straminea, et ad aream dorsalem posticam rufo tincta, lineis radiantibus crebris vix insculpta; umbonibus elevatis, obtusis; extremitatibus rotundatis; intus citrina, rufo-sanguineo conspersa; margine concinne crenulato.*

“Long. .62, alt. .62, lat. .42.

“Compares with *C. Elenense* and *C. Mortoni*.”—Gould, MS.

Hab. San Pedro; legit *W. P. Blake*.

[Probably = *C. substriatum*, Conr. J. A. N. S. p. 228. pl. 17. f. 2.]

22. LUCINA ARTEMIDIS, n. s.

L. t. alba, solidiore, subrotundata, subplanata; marginibus ventrali antice producto, postico subplanato, dorsali subangulato; umbonibus appressis, haud prominentibus; superficie sulcis concentricis crebris ornata; lunula parva, vix excavata, in valva altera omnino sita, altera margine incurvata; intus, dent. card. ii.—ii. divergentibus, lat. ant. i.—ii. prominentibus, distantibus, post. i.—ii. valde distantibus, parvis; cicatr. musc. ant. elongatis, serratis, post. parvis; linea pallii a margine haud distante.

Long. .75, lat. .84, alt. .37.

Hab. ? Acapulco, teste Gould; Mus. suo, sp. un.

Found in company with *Tellina vicina*, C. B. Ad. Has the characteristic shape and interior of *Lucina*, with the sculpture of *Dosinia*.

23. DIPLODONTA ORBELLA, Gould.

Lucina orbella, Gould, p. 22. pl. 15. f. 3.

? = *Diplodonta semiaspera*, var. : v. B.M. Maz. Cat. p. 102. no. 150.

Hab. Santa Barbara (*Jewett*). Mus. Gould.

24. CYRENA MEXICANA, var. ALTILIS, Gould.

Cyrena altilis, Gould, p. 27. pl. 16. f. 5; *vide* B.M. Maz. Cat. p. 115, no. 165.

Hab. Mazatlan. Mus. Gould, Brit.

25. ANODON CICONIA, Gould, p. 29; B.M. Maz. Cat. p. 117. no. 166.

26. MYTILUS GLOMERATUS, Gould, p. 29. pl. 16. f. 8.

Hab. San Francisco (*Maj. Rich.*). Mus. Gould.

27. MODIOLA NITENS, n. s.

M. t. tenui, gibbosa, maxime elongata, striis incrementi conspicuis; epidermide olivaceo-cornea nitente induta; parte antica angusta, umbonibus obtusis, spiralibus, terminalibus; parte postica maxime producta; angulo diagonali indistincto, maxime tumente; marginibus, ventrali incurvato, dorsali plus minusve angulato; intus purpurea, parte ventrali albida, translucida; linea cardinali tenui, edentula.

Long. 1·05, lat. ·2-·45, alt. ·38.

Hab. California, teste Gould. Mus. suo.

Has the shape of *Mytilus multiformis* (B.M. Maz. Cat.), the internal colouring of *M. Braziliensis*, and a glossy epidermis over the irregular lines of growth of a lustrous olivaceous hue.

28. LITHOPHAGUS FALCATUS, Gould.

Lithodomus falcatus, Gould, Proc. B. N. H. S. Nov. 1851; Mex. &c. p. 30. pl. 16. f. 9.

= *L. Gruneri*, Phil. (New Zealand). Mus. Cum.

I do not know which name has precedence; but a comparison of types of these most remarkable shells affords no opportunity for separating the species, widely as their habitats are removed.

Hab. Monterey (*Rich.*). Mus. Gould.

29. BYSSOARCA PERNOIDES, n. s.

B. t. subquadrata, planata, albida, epidermide spongiosa fusca induta; striis exilibus radiantibus, confertissimis; minutissime tuberculosus; umbonibus obtusis, antice sitis, area parva; intus linea dentium maxime arcuata, dentibus extremis validis, interioribus parvis, confertis, quadratis; cicatr. musc. rotundatis, politis; pagina interna, intra lineam pallii, radiatim striata; margine simplici; ligamento fossis quadratis minutis

confertis, haud dentibus convenientibus, sito, aream quoque tegente.

Long. .68, lat. .53, alt. .32.

Hab. San Diego (*Dr. Webb*). Valv. unic. in Mus. Gould.

Somewhat resembling the fine variety of *B. solida*, but squarer, and known at once by the teeth and ligament. This is (under the glass) in minute pits, as in *Isognomon*, but with an extra layer covering the whole area.

30. AVICULA STERNA, Gould, p. 31. pl. 16. f. 7; B.M. Maz. Cat. p. 148. no. 203.

31. LIMA TETRICA, Gould, p. 32. pl. 16. f. 6.

Hab. La Paz (*Rich*). Mus. Gould.

32. BULIMUS PALLIDIOR, Sow.

Bulimus vegetus, Gould, p. 2. pl. 14. f. 2.

33. BULIMUS VESICALIS, Gould, p. 2. pl. 14. f. 1.

"Probably immature."—*Cuming*.

Hab. Lower California (*Rich*). Mus. Gould.

34. BULIMUS EXCELSUS, Gould, p. 3. pl. 14. f. 3.

Hab. California (*Rich*). Mus. Gould.

35. PHYSA ELATA, Gould, p. 6. pl. 14. f. 4; B.M. Maz. Cat. p. 180. no. 237.

36. TORNATINA CULCITELLA, Gould.

Bulla (Aker) culcitella, Gould, p. 4. pl. 14. f. 8.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

37. TORNATINA CEREALIS, Gould.

Bulla (Tornatina) cerealis, Gould, p. 5. pl. 14. f. 9.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

38. TORNATINA INCULTA, Gould, MS.

"*T. t. minuta, eburnea, solidula, elongato-ovali, longitudinaliter minutissime striata; spira elevata; anfr. iv. tabulatis; apertura $\frac{7}{8}$ longitudinis testæ adæquante, antice dilatata; labro inflexo, postice rotundato; columella arcuata, callosa, unipli-cata.*

"*Bulla (Tornatina) inculta.* May be compared with *B. fusiformis*, A. Ad., and *B. constricta*, Gould. The spire is sometimes scarcely exerted."—*Gould, MS.*

Hab. San Diego; teste Gould.

39. HAMINEA VESICULA, Gould.

"*H. t. parva, fragili, ovato-globosa, pallide citrina, postice truncata; apertura corpus testæ duplo excedente, spiram superante,*

postice et antice late rotundata; columella valde arcuata, vic callosa.

“*Bulla (Haminea) vesicula*. About the size and general appearance of *B. rotundata*, A. Adams; not so large a body; aperture larger.”—Gould, MS.

Hab. San Diego; legit *W. P. Blake*.

40. *NACELLA DEPICTA*, Hinds.

Patelloida depicta, Hinds, Ann. Nat. Hist. x. p. 82; Voy. Sulph. Moll. p. 53. no. 217.

Acmaea paleacea, Gould, p. 3. pl. 14. f. 5.

41. *OMPHALIUS PFEIFFERI*, Phil.

Trochus marcidus, Gould, p. 8. pl. 14. f. 11.

Comp. *Chlorostoma maculosum*, A. Ad.—Philippi's name is given on the important authority of Mr. Cuming. Dr. Gould's shell seems more like that of A. Adams; while his *Trochus Montereyi*, Kien., appears to be *T. Pfeifferi*, Phil.

42. *OSILINUS GALLINA*, var.

Trochus (Monodonta) pyriformis, Gould, p. 9.

43. *LIVONA PICA*, Linn.

Trochus picoides, Gould, p. 8.

This species is said to have been taken alive at Santa Barbara by Col. Jewett, who brought home five specimens. Dr. Gould, for geographical reasons, describes them as a distinct species. The exclusive peculiarities assigned to the Pacific shells are often seen in the very variable W. Indian specimens. The dead shell sent by Dr. Gould was unhesitatingly pronounced by Mr. Cuming to be the true *Trochus pica*, Linn. It did not occur in the Mazatlan collection, nor has it been found by Messrs. Cuming, Hinds, C. B. Adams, Nuttall, Kellett, Belcher, Chiron, Shipley, Hartweg, or any other of the careful explorers of the Pacific coast.

44. *PHASIANELLA COMPTA*, Gould, MS.

“*Ph. t. parva, solida, ovato-conica, imperforata, polita, cinerascente, lineis minutis olivaceis, oblique volventibus, ornata; anfr. iv. rotundatis, ultimo ad peripheriam subangulato, et interdum tessellatim fasciato; apertura circulari; labro tenui, albo; columella planulata, alba; faucibus callo incrassatis.*”

Variat t. rubida, ut in Ph. perforata picta.

Hab. Sta. Barbara (Col. Jewett); San Diego (Dr. Webb, *W. P. Blake*). Mus. Gould.

For the differences between this species and the equatorial *Ph. perforata*, vide B.M. Maz. Cat. p. 225. no. 284.

45. *CRUCIBULUM CORRUGATUM*, n. s.

C. t. compacta, conica, solida, alba; costis irregularibus angustis, haud acutis, primum paucis, postea plurimis, corrugatis; inter-

stitiis quoque corrugatis; cyatho (ut in C. spinoso juniore) incompleto, duabus marginibus affixo, intus planato et angulato; margine a costis crenulato.

Long. .7, lat. .68, alt. .48.

Hab. Mazatlan (Col. Jewett); sp. unic. in Mus. Gould.

It is hazardous to describe a Calyptræid from a single specimen. This has the general aspect of *C. violascens*, with sculpture resembling *C. imbricatum* var. *Broderipii*, and a cup, which, although the shell has an appearance of normal growth, preserves the incompleteness which is characteristic of the genus in its early stage. The young state seems to have been externally like that of *Siphonaria gigas*, with few, narrow, projecting ribs. The apex is rubbed. It resembles *Calyptræa striata*, Say.

46. CREPIDULA EXPLANATA, Gould, p. 4. pl. 14. f. 7.

Crepidula perforans, Val. Voy. Ven. Moll.

Crepidula exuviata (quasi Nutt.), Jay's Cat. no. 3027.

This shell, remarkable as is the form of the adult, is normal when young. Specimens of *C. nivea* were found in the Mazatlan collection of similarly distorted form, from living in the holes of *Lithophagi*; but they never displayed the cancellations between the laminæ which appear in some specimens, but not all, of the present species. The prior name of Valenciennes is rejected, as implying an untruth.

47. MODULUS DISCULUS, Phil.

Modulus dorsuosus, Gould, p. 10. pl. 14. f. 12.

48. FOSSARUS (ISAPIS) OVOIDEUS, Gould.

Narica ovoidea, Gould, p. 7. pl. 14. f. 10.

Comp. *Fossar reticulatus*, A. Ad.; vide B.M. Maz. Cat. in loco.

Hab. ? Mazatlan (Col. Jewett). Mus. Gould.

49. ? LACUNA UNIFASCIATA, n. s.

? *L. t. parva, solida, conica, ad basin angulata; anfr. v. lævibus, parum convexis, sutura distincta; rufo-fusca, linea intensiore ad carinam suturæ convenientem, interdum maculis adjacentibus; rima umbilicali a labio subcelata; apertura ovali; apice regulari.*

Long. .23, long. spir. .11, lat. .15, alt. .45°.

Hab. Sta. Barbara (Col. Jewett). Mus. Gould.

This shell has the shape of *Littorina angulifera*, the general aspect of the small *Phasianellæ*, and the chunk of *Lacuna*. Its operculum is unknown, all the specimens in Mus. Gould being dead.

50. CERITHIDEA ALBONODOSA, n. s.

C. t. solida, C. varicosæ simili, compacta, fusco-purpurea, varicibus et nodulis albis, fasciis spiralibus intensioribus sæpe ornata; anfr. xii. parum convexis, sutura impressa; liris spiralibus iv. in anfr. penult. et liris creberrimis transversis vix undatis, ad intersectiones nodosis, ornata; varicibus iii. in

anfr. ii. ; *apertura subquadrata, sinu minimo, labio haud expanso; operculo subplanato, nucleo mucronato, anfr. plurimis indistinctis, fusco, ad marginem tenuissimum diaphano.*

Long. .8, long. spir. .57, lat. .33, div. 20°.

Hab. San Diego; legit *Dr. Webb.* Mus. Gould.

Known from *C. varicosa* var. *Mazatlanica*, by the light purplish-brown tinge, the colour of which wears off at the varices and nodules, and by the details of sculpture.

51. CERITHIDEA (? SACRATA, var.) FUSCATA, Gould, MS.

Cerithium (Potamis) sacratum, Gould, Exp. Shells, p. 60.

Pirena Californica, Nuttall, MS.

"*C. t. turrita, gracili, solida, rudi, fusco-cinerea; anfr. ad x. convexiusculis, plicis circiter xvi. longitudinalibus arcuatis, compressis, instructis, et filis ad v. volventibus cinctis; ultimis iii. varices ferentibus; apertura parva, subcirculari, basi vix effusa vel contorta; labro expanso, nitide rufo-nigricante.*

"Long. 1.25, lat. .4 poll.

"*Potamis fuscata.* Distinguished from *P. sacrata* by its much more slender form, small size, colour of aperture, and longitudinal folds. It varies greatly in proportions, and sometimes displays a delicate, ochraceous revolving line."—*Gould, MS.*

This shell is regarded by Mr. Nuttall and myself as a variety of the very variable *C. sacrata*.

Hab. San Diego; legit *W. P. Blake.* Mus. Gould.

52. ERATO ? COLUMBELLA, Mke. Zeit. f. Mal. 1847, p. 183. no. 26.

Erato leucophæa, Gould, p. 13. pl. 14. f. 20.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

53. EURYTA FULGURATA, Phil.

Terebra arguta, Gould, p. 7. pl. 14. f. 19; vide B.M. Maz. Cat. *in loco.*

54. CONUS RAVUS, Gould, p. 13. pl. 14. f. 21.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

55. CONUS PURPURASCENS, Sow.

Conus comptus, Gould, p. 14. pl. 14. f. 23.

Dr. Gould's type specimen is pronounced by Mr. Cuming to be a worn young specimen of that previously described. It is probably, as Dr. G. supposes, the *C. achatinus* of Menke's catalogue.

56. CONUS PUSILLUS, Gould, p. 15. pl. 14. f. 22.

Hab. Mazatlan (*Jewett*). Mus. Gould.

57. OBELISCUS ACHATES, Gould.

Odostomia achates, Gould, p. 12. pl. 14. f. 13.

Comp. *Obeliscus clavulus*, A. Ad.

Hab. Mazatlan (*Jewett*). Mus. Gould.

58. ODOSTOMIA GRAVIDA, Gould, p. 11. pl. 14. f. 14.

Hab. Sta. Barbara (Jewett). Mus. Gould.

59. CHEMNITZIA TENUICULA, Gould, p. 10. pl. 14. f. 15.

Hab. Sta. Barbara (Jewett). Mus. Gould.

60. CHEMNITZIA TORQUATA, Gould, p. 11. pl. 14. f. 16.

Hab. Sta. Barbara (Jewett). Mus. Gould.

61. SIGARETUS DEBILIS, Gould, p. 6. pl. 14. f. 17.

Hab. La Paz (Lieut. Green). Mus. Gould.

62. FASCIOLARIA BISTRIATA, n. s.

F. t. regulari, tenui, aurantio-fusca, epidermide tenui induta; anfr. ix. quorum duo nucleosi laeves, apice mamillato, subdeclivi; normalibus convexis, sutura distincta; costis transversis (in anfr. penult. xvi.) tumentibus sed planatis, attingentibus, interstitiis parvis, ad basin ecanidis; lirulis acutis spiralis (in anfr. penult. vi.) et inter eas striulis crebris, costis trans-euntibus, eleganter ornata; apertura ovali, albida; labro acuto, secundum lirulas intus sulcato; pariete secundum lirulas plicato; labio ad basin parvo, vix plicato; canali elongato, subrecto.

Long. 1.07, long. spir. .42, lat. .48, div. 50°.

Hab. Panama, teste Gould; sp. unic. in Mus. suo.

The columellar folds in this very elegant and delicate shell are indistinct, but are compensated by the continuations of the spiral lirulæ over the body whirl.

63. OLIVELLA INTORTA, n. s.

O. t. parva, ovoidea, subtumente; sutura vix sulcata; albido-grisea, fascia indistincta subsuturali olivacea, flammulis et maculis purpureo-fuscis plus minusve ornata; apertura antice aperta, postice angusta; callositate parietali ad suturam penultimam producta; columella maxime intorta, plica ad basin acuta, in pariete duabus sæpe indistinctis; extus, linea spirali antica unica.

Long. .52, long. spir. .17, lat. .26, div. 60°.

Hab. San Juan; legit Dr. Green. Mus. Gould. Item, loc. incert. Mus. Cuming.

A well-marked species, resembling the West Indian *O. bullata*, on a much larger scale. The specimens vary in tumidity and height of spire. The parietal callosity extending over the penultimate whirl hides the colour of the spire.

64. MARGINELLA JEWETTII, n. s.

M. t. parva, alba, ovoidea; spira depressa, sutura celata, antice angustiore, postice tumidiore; labro vix incrassato, medio in-

B. M.

flexo, supra calloso, callositate suturam et anfr. penult. tegente ; labio iv.-plicato, et supra dentato.

Long. .18, long. spir. (super suturam) .03, lat. .12, div. 120°.

Hab. Sta. Barbara, rarissime (*Col. Jewett*). Mus. Gould.

Closely resembling the small white species from the Panama, W. Indian and N. African provinces ; but distinguished from all in shape and plications.

65. COLUMBELLA SANTA-BARBARENSIS, n. s.

C. t. elongata, subconica, fusco-aurantia, albido varie picta ; epidermide tenui, transversim striata, munita ; anfr. vii. subplanatis, suturis distinctis, spiraliter striatis, striis distantibus ; apertura subquadrata, intus violascente ; labro acutiore, vix sinuato, vix denticulato ; labio parvo, plica unica canali contigua ; anfr. primis sæpe decussatis.

Long. .36, long. spir. .18, lat. .15, div. 40°.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

This elegant species is known by its faintly striated surface, violet-tinted, open mouth, and the extremely minute labral denticles. The discovery of this and other species of the genus in the Upper Californian province, corrects the error as to its northern limit in Forbes' Zoological Map. The markings of the two specimens sent vary, as in the next species.

66. ? NITIDELLA GOULDII, n. s.

N. t. parva, elongata, conica, lævi, circa basin spiraliter striata ; anfr. vii. subplanatis, suturis distinctis ; albida, aurantio varie picta ; apertura subquadrata, labro sinuato, subacuto, intus conspicue dentato ; labio parvo, vix crenato ; apice interdum decollato.

Long. .32, long. spir. .15, lat. .15, div. 37°.

Hab. Sta. Barbara (*Jewett*). Mus. Gould.

Closely resembling *N. cribraria* ; distinguished from *C. Sta.-Barbarensis* by the smooth whorls and apex, and the conspicuous labral teeth. The two specimens examined differ too much from each other in colour-markings to found specific characters upon these features.

67. FUSUS AMBUSTUS, Gould, p. 12. pl. 14. f. 18.

Hab. Mazatlan (*Green*). Mus. Gould.

68. PURPURA PATULA, Linn.

Purpura pansa, Gould, p. 33.

This shell, occurring unexpectedly to Dr. Gould on the Pacific shores, was, according to his theory, described as a fresh species ; the few, poor, young specimens at his disposal affording him supposed points of distinction. These however do not apply to the fine series which has been examined from the Mazatlan collection. *Vide* B.M. Cat. *in loco*.

4. MONOGRAPH OF THE SHELLS COLLECTED BY T. NUTTALL,
ESQ., ON THE CALIFORNIAN COAST, IN THE YEARS 1834-5.
By PHILIP P. CARPENTER.

The following shells were collected by Mr. Nuttall at various stations from Oregon to San Diego. Most of them were described by T. A. Conrad in the Journal of the Academy of Natural Sciences of Philadelphia, vol. vii. part ii. 1837 (Read, Jan. and Feb. 1837). This paper is accompanied by four coloured plates; but the descriptions are in English. References are now given as far as known, and descriptions of a few overlooked species. The types are destined ultimately for the British Museum, where many of them are already to be found. They are at Mr. Nuttall's residence, Nut Grove, near Rainhill, Lancashire. Several of the species are only known by references in the Catalogue of Dr. Jay's Collection, U. S. A.

PHILIP P. CARPENTER.

Bristol, June 1856.

Genus PARAPHOLAS, Conr.

“*Testa Pholadiformis; marginibus dorsalibus supra valvis late expansis; valvis accessoriis ii., subæqualibus, elongatis, altera ab umbone ad marginem posticum directæ, altera ad basim affixa; area cardinali solida; cicatr. musc. adduct. valde elongatis.*”

“Distinguished by the accessory valves, which appear soldered to the shell, elongated muscular impressions; form of the pallial sinus and valve on the base.”—Journ. 1849, p. 214.

It is difficult to know what limits Conrad intended for this genus. It is used in the B.M. Maz. Cat. for the tripartite *Pholadidea* with persistent cups, on the authority of Woodward's Manual; but Conrad uses it, besides the following species, in Journ. Jan. 1850, for *Pholadidea melanura*, which he calls *Parapholas bisulcata*; while the *Parapholas acuminata* (vide B.M. Maz. Cat. p. 12. no. 18) he calls *Penitella Wilsonii* *.

— 1. PARAPHOLAS CALIFORNICA, Conr.

Pholas Californica, Conr. Journ. p. 236. pl. 18. f. 5, 6; Sow. Thes. Conch. in loc.

= *Pholas Janellii*, Desh. Rev. Zool. 1839, teste Gould.

Parapholas Californica, Conr. Journ. 1849, p. 214.

Hab. Sta. Barbara, rupibus argillaceis. Mus. Nutt., Cum., Brit., Jay.

* In the same paper is described a genus *Solecardia* (species) *eburnea*; and then occur the following additional synonyms:—

Petricola sinuosa, Conr. = *P. robusta*, Sow.

Pholadopsis pectinata, Conr. = *Triumphalia*, sp., Sow.

Triton perforatus, Conr. = *T. Chemnitzii*, Gray = *Argobuccinum nodosum*, Chemn.

Oliva propatula, Conr. = *O. testacea*, Lam.

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The animal forms a tube of indurated clay, represented at f. 6 (7, err. typ.), extending nearly to the surface of the bed in which it burrows.

2. PARAPHOLAS PENITA, Conr.

Pholas penita, Journ. p. 237. pl. 18. f. 7.

Parapholas penita, Conr. Journ. 1849.

= *Pholas concamerata*, Desh. Rev. Zool. 1839.

Hab. Sta. Barbara, una cum *P. Californica*. Mus. Gould, Jay.

Is much smaller than *P. Californica*; without an internal callus at the posterior hinge margin; and with a differently shaped apophysis.

Subgenus PLATYODON, Conr.

Testa Myæ simili, sed dente cardinali minus prominente, magis dilatata; linea pallii sinu antice angusto, postice profundo. Animal siphonibus duabus haud divergentibus, valvulis quatuor testaceis extremitates claudentibus.

3. PLATYODON CANCELLATA, Conr. Journ. p. 236. pl. 18. f. 2; H. & A. Ad. Gen. vol. ii. p. 354.

Hab. Sta. Barbara; inter paludes limosas, et rupes. Mus. Nutt., Brit., Jay.

Subgenus CRYPTODON, Conr.

Testa Lutrariæ simili, sed margine cardinali profunde canaliculato. Animal siphonibus duabus haud divergentibus, valvulis corneis duabus extremitates claudentibus.

4. CRYPTODON NUTTALLII, Conr. Journ. p. 235. pl. 18. f. 1.— (Non *Maetra Nuttallii*, Reeve, Conch. Ic. pl. 21. sp. 125.)

Hab. Sta. Barbara, in paludes, inter fluxum maris. Mus. Nutt. ? = *Cypricia Nuttallii*, quasi Conr. B.M.

5. SPHÆNIA CALIFORNICA, Conr. Journ. p. 234. pl. 17. f. 11. (1834).

= *Cryptomya Californica*, Conr. loc. cit. 1849, p. 208; H. & A. Ad. Gen. vol. ii. p. 359.

Hab. Sta. Barbara, inter paludes, infrequens. Mus. Nutt., Jay.

Conrad describes the pallial line as "without a sinus, but forming a right angle posteriorly;" in Mr. Nuttall's specimen, however, the sinus may be traced, though very faintly marked.

6. THRACIA CURTA, Conr. Journ. p. 248. pl. 19. f. 8.

Hab. Sta. Barbara. Mus. Nuttall.

A fine pair (not a single valve only, as stated by Conrad) is in Mr. Nuttall's cabinet. It is remarkable for its great squareness at the posterior end.

Genus MYTILIMERIA, Conr. Journ. p. 246.

Testa æquivalvis, subovalis, tenuis; umbonibus subspiralibus; cardine edentulo, cavitate parva, lineari, sub umbonibus sita; cicatricibus muscularibus ii. minoribus; sinu pallii lato, obtuso.

Apparently a subgenus of *Lyonsia*, with the regular form of *Crenella* = *Mytilimeria*, H. & A. Ad. Gen. vol. ii. p. 363, pars.

7. MYTILIMERIA NUTTALLI, Conr. Journ. p. 247. p. 19. f. 5.

Hab. California, inter spongas et radices fucorum, mari profundo. Mus. Brit., Jay.

8. LYONSIA CALIFORNICA, Conr. Journ. p. 248. pl. 19. f. 20. (non 21.)

? = *Lyonsia nitida*, Gould. Mus. suo.

Hab. Sta. Barbara. Mus. — ?

9. PERIPLOMA ARGENTARIA, Conr. Journ. p. 238. pl. 18. f. 8.

Hab. In limine Stæ. Diego, inter paludes limosas. Mus. Cuming, Jay, Gould.

= *Periploma planiuscula*, Sow. 1834, teste Gould.

10. PANDORA PUNCTATA, Conr. Journ. Phil. 1834, p. 228. pl. 17. f. 1.

Hab. Sta. Barbara; valvæ solitariæ. Mus. Cuming, Nutt.

Genus MACHÆRA, Gould.

= *Siliqua*, Megerle := *Leguminaria*, Schum.

11. MACHÆRA LUCIDA, Conr.

Solecortus lucidus, Conr. Journ. p. 231. pl. 17. f. 8.

= *S. radiatus*, Gould, non Linn. (teste Conr. 1849).

Siliqua lucida, Conr. Journ. Aug. 1849.

Hab. Sta. Barbara, rarè. Mus. Nutt., Brit.

Closely resembling the European species; but, according to Conrad, differing from this, and agreeing with that of New England. The rib is seen through the shell, resembling a yellowish ray.

12. SOLECORTUS NUTTALLII, Conr. Journ. p. 232. pl. 17. f. 9.

Siliqua Nuttallii, Conr. Aug. 1849.

= *S. maximus*, Gould, non Wood (teste Conr. 1849) = Wood, pl. 31. f. 3, teste Gould, 1855.

= *S. splendens*, Chenu (teste Conr. 1849).

Hab. In æstuario fluminis Columbiae, "near Point Adams," paludibus. Mus. Nutt., Jay.

Subgenus *CULTELLUS*, Conr.

“*T. convexa*, marginibus ventrali et dorsali parallelis; marginibus antico et postico subæqualibus, valde hiantibus; dentibus plerumque ii. in utraque valva; costæ internæ carens.”

Ex. *S. caribbæus*, *S. Dombeyi*, *S. strigillatus*, &c., Journ. p. 233. pl. 17. f. 10.

13. *SOLECURTUS SUBTERES*, Conr. Journ. p. 233. pl. 17. f. 10.
Hab. Sta. Barbara. Mus. Nutt., Brit., Jay.

14. *SOLECURTUS CALIFORNIANUS*, Conr. Journ. p. 233. pl. 18. f. 3.
Hab. Sta. Barbara, inter paludes limosas; frequens. Mus. Nuttall, Brit., Jay.

15. *SANGUINOLARIA PACIFICA*, Conr.
Psammobia pacifica, Conr. Journ. p. 241. pl. 18. f. 13.
Hab. San Diego, inter arenam, mari subprofundo. Mus. Brit.
The figure displays no radiating lines, a thin cardinal margin, and a solitary tooth. It appears to be a thin Tellinoid shell.

16. *SANGUINOLARIA NUTTALLII*, Conr. Journ. p. 230. pl. 17. f. 6.
Hab. Sta. Diego, in paludibus. Mus. Nutt., Cum., &c.
= *Psammobia decora*, Hinds, Voy. Sulph. Moll. *in loco*.
This very well-marked species, approaching *Solecortus*, was overlooked by Mr. Hinds, notwithstanding his usual care.

17. *SANGUINOLARIA CALIFORNIANA*, Conr. Journ. p. 231. pl. 17. f. 7.
Hab. In æstuario fluminis Columbiae, paludibus limosis. Mus. ?

S. CALIFORNIANA, var. A, Conr.

Testa alba, æquilaterali.

? An eadem species. Mus. Nuttall.

18. *SANGUINOLARIA RUBRO-RADIATA*, Conr. [? ubi.]

Appears allied to *Psammobia*.

Hab. California. Mus. Nuttall.

19. *SEMELE RUBROLINEATA*, Conr.

Amphidesma rubrolineata, Conr. Journ. p. 239. pl. 18. f. 11.

= *Semele simplex*, A. Ad.

This species, of which Mr. Nuttall had not retained a specimen, fortunately reappears in Dr. Gould's collection, and is pronounced by Mr. Cuming identical with Mr. Adams's shell.

Hab. San Diego, mari profundo. Mus. Cuming, Gould.

20. SEMELE DECISA, Conr.

Amphidesma decisa, Conr. Journ. p. 239. pl. 19. f. 2 ; Rve. Conch. Ic. pl. 4. sp. 24.

Hab. Una cum præcedente. Mus. Cuming, Nuttall, Brit., Jay.

Of this very characteristic shell, the length is stated by Conrad (probably erroneously) to be 5 inches. It grows however to a large size.

= *Amphidesma roseum*, Brod. & Sow., teste Gould.

21. CUMINGIA CALIFORNICA, Conr. Journ. p. 234. pl. 17. f. 12.

Hab. Sta. Barbara, infrequens ; Mazatlan, do. Mus. Cum., Brit., Jay.

22. TELLINA ALTA, Conr. Journ. p. 258 ; Hanl. Rec. Shells, p. 71 ; Jay's Cat. no. 520.

Hab. Sta. Barbara. Mus. Jay.

According to Conrad, this shell has the outline of a *Capsa*, Enc. Méth. pl. 231. f. 1. Mr. Nuttall and I, however, may have erred in regarding the shell described in P. Z. S. 1855, p. 230, as ? *Scrobicularia biangulata* as being distinct.

23. TELLINA EDENTULA, Brod. & Sow. Zool. Journ. iv. p. 363 ; Zool. Beech. Voy. p. 154. pl. 41. f. 5, et pl. 44. f. 7 ; Mid. Mal. Ross. p. 62.

This species grows to a very large size, and is eaten by the Chinooks at the estuary of the Oregon.

Hab. Oregon. Mus. Nuttall.

24. TELLINA NASUTA, Conr. Journ. p. 258 ; Hanl. Rec. Shells, p. 71 ; Sow. Thes. Conch. p. 314. pl. 64. f. 224 ; Middendorff, Siber. Reise, p. 256. no. 50. pl. 23. f. 6-11 ; Jay, Cat. no. 633.

Hab. San Diego (*Nuttall*), teste Conrad ; Tugurbusen, Okotsk Sea (*Middendorff*). Mus. Jay.

25. TELLINA SECTA, Conr. Journ. p. 257 ; Hanl. Rec. Shells, p. 67.

= *T. ligamentina*, Desh. in Guér. Mag. 1843, pl. 81, teste Jay, Cat. no. 633.

Hab. San Diego, inter paludes limosas. Mus. Nuttall, Jay.

26. DONAX CALIFORNICUS, Conr.

Donax Californica, Conr. Journ. p. 254. pl. 19. f. 21 (non *D. Californicus*, Desh., vide B. M. Mazatlan Cat. p. 47. no. 76).

Hab. Sta. Barbara, inter arenam. Mus. Nuttall, Brit., &c.

This is a small, gibbous shell, resembling *D. punctatostriatum*, but without the dots. The *D. Californicus* of Deshayes is the young state of the white variety of the *D. Conradi* of the same author.

= *Donax obesus*, Phil.

27. *MACTRA CALIFORNICA*, CONR. Journ. p. 240. pl. 18. f. 12.

Hab. In paludes limosas, inter fluxum maris, Sta. Barbara, rarius. Mus. Gould.

Allied to *M. exoleta*, but much smaller, flatter, and more transverse.

28. *MACTRA PLANULATA*, CONR. Journ. p. 240.

Hab. Una cum præcedente. Mus. ?

29. *PETRICOLA CALIFORNICA*, CONR.

Saxicava Californica, CONR. Journ. p. 256. pl. 20. f. 9.

Petricola Californica, CONR. Journ. Aug. 1849; Desh. B.M. Cat. Ven. p. 208. no. 3.

= *Petricola arcuata*, Desh. Rev. Zool. Cuv. 1839, p. 358.

Hab. Sta. Barbara, San Diego, &c. Mus. Gould, Cuming.

Var. = *Saxicava carditoides*, CONR. Journ. p. 255. pl. 20. f. 8; = *Petricola carditoides*, CONR. Journ. Aug. 1849.

Comp. *Petricola cylindracea*, Desh. Rev. Zool. Soc. Cuv. 1839, p. 358; B.M. Cat. Ven. p. 208. no. 5.

The *S. carditoides*, constituted by Conrad for a single valve found near Sta. Barbara, is regarded by him as identical with the *P. cylindracea* of Deshayes. After a comparison of a large series of specimens belonging to Dr. Gould and Mr. Cuming, I have, with Mr. Nuttall's consent, united Conrad's two species; retaining the latter name, though least expressive, because already adopted by Deshayes for his own *P. arcuata*. Dr. Gould regards both the *P. arcuata* and *P. cylindracea* of Desh. as being identical with Conrad's *P. carditoides*; but I have not sufficient confidence that such is the case to venture on uniting them.

30. *RUPELLARIA LAMELLIFERA*, CONR.

Venus lamellifera, CONR. Journ. p. 251. pl. 19. f. 19.

= *Venerupis Cordieri*, var. β , Desh. B.M. Cat. Ven. p. 191, no. 1.

Petricola Cordieri, Desh. Rev. Zool. Soc. Cuv. 1839, p. 358; Mag. Zool. pl. 18.

Hab. San Diego. Mus. Cuming, Nuttall, Gould.

On comparing the solitary valves on which Conrad's species was founded, with a series of very variable specimens in Dr. Gould's and Mr. Cuming's collections, there appears scarcely a doubt of its identity with that of Deshayes.

31. ? *TAPES TUMIDA*, CONR.

T. t. subquadrata, valde inæquilaterali, alba, huc et illuc aurantio punctata; postice latiore, tumente; costulis plurimis rotundatis radiantibus, haud extantibus, interstitiis subæquantibus; liris concentricis satis confertis, rotundatis, secundum costas pectinatis; ligamento haud conspicuo, area minima, sulcis duabus circumeuntibus; lunula minima, parum definita; dent. card. in utraque valva iii. valde divergentibus, quorum centrales, et in valva altera posticus bifidi sunt; margine cardinali interno

excavato; sinu pallii haud parvo, rotundato; margine tenuè crenato.

Long. .62, lat. .74, alt. .4.

Hab. Sta. Barbara, legit *T. Nuttall*; sp. unic. Museo suo.

Mysia tumida, Conr., Nutt. MS.

This shell has the general shape and aspect of a *Tapes*, with a sculpture resembling *Venus (Chione) gnidia* and its congeners, and a hinge not exactly corresponding with any of the defined genera. The anterior teeth are short and divergent; the central teeth are bifid and interlock; the posterior tooth is bifid in one valve, single in the other, with an obscure lateral tooth inside the almost concealed ligament. The pallial sinus is not so large as in *Tapes*.

— 32. TAPES STRAMINEA, Conr.

Venus straminea, Conr. Journ. p. 250. pl. 19. f. 14 (non 15).

Tapes straminea, Sow. Thes. Conch. p. 699. pl. 151. f. 151.

Chione straminea, Desh. B.M. Cat. Ven. p. 141. no. 66.

= *Venus dispar*, Gould, MS.

Hab. Sta. Barbara et San Diego. Long. 1.5 poll. Mus. Brit. Nuttall, Cuming, &c.

This belongs to a group of closely allied species intermediate between *Venus* and *Tapes*, and is replaced in the Mexican fauna by *Tapes histrionica* (B.M. Mazatlan Cat. p. 76. no. 109).

Genus SAXIDOMUS, Conr.

Saxidomus, Conr. Journ. p. 249; Desh. B.M. Cat. Ven. p. 186.

“*Testa æquivalvis, postice hians; cardine, valva dextra dentibus compressis* iv.-v., *valva sinistra* iv.; *cicatricibus muscularibus ii. magnis, rotundatis; sinu pallii profundo.*”

“Differs from *Tapes* in its gaping extremity and rounded pallial sinus.” This description is enlarged by Deshayes so as to include eight species.

33. SAXIDOMUS NUTTALLI, Conr. Journ. p. 249. pl. 19. f. 12; Desh. B.M. Cat. Ven. p. 188. no. 4.

This species inhabits the Californian coast as far as San Diego; where it is found burrowing into soft clay-stone, along with *Pholades*, *Cumingia*, &c. The differences between this and the sub-boreal species, *S. giganteus* (Desh. B.M. Cat. Ven. p. 187. no. 2; quoted by Middendorff from Sitka and Kamtschatka), appear extremely slight. They are united by Jay.

Genus TRIGONA, Megerle.

Trigona, Megerle, Desh. B.M. Cat. Ven. p. 45.

= *Trigonella*, Conr.: indicated in Journ. 1837, p. 253; described in Journ. 1849, p. 213.

34. TRIGONA CRASSATELLOIDES, CONR.

Cytherea (Trigonella) crassatelloides, Conr. Journ. p. 253. pl. 19. f. 17; Hinds, Voy. Sulph. Moll. p. 65. pl. 21. f. 1.

Trigonia crassatelloides, Desh. B.M. Cat. Ven. p. 46. no. 1; B.M. Mazatlan Cat. p. 58. no. 86.

Hab. Sta. Barbara, San Diego, &c. Mus. Gould, Nuttall, Cuming, Brit. &c.

This shell attains the length of 7 inches, and is found about a foot deep in the sand.

35. DOSINIA CALLOSA, CONR.

Cytherea callosa, Conr. Journ. p. 252 (non *Chione callosa*, quasi Conr., Desh. B.M. Cat. Ven. p. 135. no. 48).

"*D. t. subovata, subdepressa, alba; costis concentricis, confertis, planatis, huc et illuc antice et postice bifurcantibus; intus irregulariter callosa, margine tenuiore; sinu pallii valde impresso, profundo.*"

Long. 2 poll.

Hab. Sta. Barbara. Mus. Nuttall.

Mr. Nuttall found numerous valves of this species; but, although so thick, they were always broken by gulls. It is said by Conrad to resemble the fossil *C. erycinoides*.

36. VENUS NUTTALLI, CONR. Journ. p. 250. pl. 19. f. 15 (non 14); Hantl. Rec. Shells, p. 113; Wood, Suppl. pl. 16. f. 46.

Chione Nuttalli, Desh. B.M. Cat. Ven. p. 135. no. 47.

+ *Chione callosa*, Desh. loc. cit. no. 48 (pars quidem Californiensis):—non *Venus callosa*, Conr.

Hab. Sta. Barbara et San Diego. Long. 2 poll. Mus. Brit., Nuttall, Cuming, &c.

37. VENUS CALIFORNIENSIS, Brod. Proc. Zool. Soc. 1838, p. 43; et auct.

= *Venus Californiana* (quasi Sow.), Conr. Journ. p. 251. pl. 19. f. 16 (non 15).

Chione Californiensis, Desh. B.M. Cat. Ven. p. 133. no. 44.

Hab. San Diego, inter paludes limosas. Mus. Brit., Cuming, Nuttall, &c.

= *Venus leucodon*, Sow. teste Desh. loc. cit.

38. VENUS SIMILLIMA, Sow. Thes. Conch. p. 708. pl. 153. f. 17, 18.

Chione simillima, Desh. B.M. Cat. Ven. p. 133. no. 43.

Mus. Nutt. California.

39. VENUS (CHIONE) EXCAVATA, n. s.

V. t. cordata, subtumida, solida, alba, ad umbones antice incurvatas, appropinquantes, fusca; costis radiantibus, rotundatis, interstitiis aquantibus, postice parvis, acutioribus, antice confertis, rotundatis; lamellis concentricis nitentibus, crebriori-

bus, eleganter crenatis, ornata; lunula tumente, radiatim costata; area magna, planata, excavata; carinis acutis definita; intus alba, postice fusco-purpurea; dent. card. ii.-iii. validis; sinu pallii minimo; epidermide tenui, sericea.

Long. 1.34, lat. 1.5, alt. .9.

Hab. San Diego; legit *T. Nuttall*; sp. unic. in Mus. suo.

This exquisitely beautiful species belongs to the group of *V. amathusia*, &c. Although only one specimen is known, its characters are not such as to accord with the numerous similar species already described.

40. *CYPRICARDIA CALIFORNICA*, *Conr. Journ.* p. 236. pl. 18. f. 4.

Hab. Sta. Barbara et San Diego; rupibus argillaceis, inter fluxum maris; una cum *Pholadibus*. Mus. *Nuttall*.

= *Cypricardia Duperryi*, *Desh.* in *Guér. Mag.* 1841, teste *Gould*.

41. *CHAMA EXOGYRA*, *Conr. Journ.* p. 256; *Reeve, Conch. Ic.* sp. 38. pl. 7.

Hab. Sta. Barbara, San Diego, &c. in rupibus, glomerantes. Mus. *Nuttall*, *Gould*, *Cuming*, *Brit.*

One of *Dr. Gould's* specimens, probably belonging to this species, is dextral.

42. *CHAMA ? FRONDOSA*, var. ? *MEXICANA*, *jun., B.M. Maz. Cat.* p. 87. no. 121.

Hab. Sta. Barbara. Mus. *Nuttall*.

One fine young specimen appears to belong to this species.

43. *CHAMA PELLUCIDA*.

Hab. Sta. Barbara. Mus. *Nuttall*.

One very fine specimen in company with the other species.

44 a. *CARDIUM NUTTALLII*, *Conr. Journ.* p. 229. pl. 17. f. 3.

Hab. "Straits of San Juan da Fuco," paludibus luteosis. Mus. *Nutt., Brit.*

The natives cross a little peninsula to get to the place where this fine species lives, which they use as food, being of flavour superior to the English kinds. It grows so large that *Mr. Nuttall* found a squaw baling out a canoe with one of the valves.

44 b. *CARDIUM CALIFORNIANUM*, *Conr. Journ.* p. 229. pl. 17. f. 4.

Hab. Sta. Barbara; valvæ solitariæ, rarè. Mus. ?

= *C. Nuttallii*, var. teste *Mid.*; non *C. Californiense*, *Desh.*

45. *CARDIUM QUADRAGENARIUM*, *Conr. Journ.* p. 230. pl. 17. f. 5.

Hab. Sta. Barbara, rarè. Mus. *Jay.*

? = *C. luteolabrum sive xanthocheilum*, *Gould.*

46. *CARDIUM SUBSTRIATUM*, Conr. Journ. p. 228. pl. 17. f. 2.
Hab. San Diego, paludibus luteosis. Mus. Nutt.
 Closely resembles the young of *C. elatum*: differs from *C. Mor-toni*, Conr., in being less ventricose, and in its striæ and serrate margin.
47. *LUCINA BELLA*, Conr. Journ. p. 254. pl. 19. f. 11.
 = *L. pecten*, var. teste Jay.
Hab. San Diego, in paludes limosas, haud rarè. Mus. ? Jay.
48. *LUCINA CALIFORNICA*, Conr. Journ. p. 255. pl. 20. f. 1.
Hab. San Diego, una cum præcedente; rarè. Mus. Jay.
49. *LUCINA NUTTALLI*, Conr. Journ. p. 255. pl. 20. f. 2.
Hab. San Diego, una cum præcedente. Mus. Nuttall.
 This beautiful species is recognized by its winged growth.
50. *DIPLODONTA ORBELLA*, Gould.
Lucina orbella, Cal. & Mex. Shells, p. 22; vide B.M. Maz. Cat. p. 102. no. 150; P. Z. S. 1856, p. 202.
Hab. Santa Barbara, in æstuario limoso. Mus. Nuttall, Gould.
51. *ANODON NUTTALLIANA*, Lea, Trans. Am. Phil. Soc. vol. vi. pl. 20. f. 62.
Hab. In flumine Wahlamat, Oregon. Mus. Nutt., Jay.
52. *ANODON OREGONENSIS*, Lea, Trans. Am. Phil. Soc. vol. vi. pl. 21. f. 67.
Hab. In flumine Wahlamat, Oregon. Mus. Jay.
53. *ANODON WAHLAMATENSIS*, Lea, Trans. Am. Phil. Soc. vol. vi. pl. 20. f. 64.
Hab. In flumine Wahlamat, Oregon. Mus. Jay.
54. *MODIOLA CAPAX*, Conr. Journ. p. 242; B.M. Mazatlan Cat. p. 120. no. 170, q. v.
Hab. San Diego, inter paludes limosas. Mus. Brit., Cuming, Gould, &c.
55. *MODIOLA RECTA*, Conr. Journ. p. 243. pl. 19. f. 1.
 Long. 2·1, lat. ·94, alt. ·8.
Hab. Sta. Barbara, rarius. Mus. Gould.
 The measurements are taken from a very fine specimen in Dr. Gould's collection, in which the epidermis is posteriorly clothed with squamose hairs.

— 56. *MYTILUS EDULIS*, var. *LATISSIMUS*.

M. e. t. curta, triangulari, latissima.

Long. 1.1, lat. .77, alt. .5.

Hab. California Superior; legit *T. Nuttall*: sp. unic. in Mus. suo.

Among the specimens of this species brought by Mr. Nuttall, some appeared exactly like the normal European type; one presented the well-known thin striped variety; and that above indicated presents the extreme broad stunted form occasionally seen in this country. All the specimens present the subepidermal apical denticles noticed by Middendorff as (*i. e.* in form and number) characteristic of the species.

57. *MYTILUS CALIFORNIANUS*, *Conr. Journ.* p. 242. pl. 18. f. 15.

Hab. Santa Barbara, Monterey, San Diego, in rupibus. Mus. Gould, Jay.

58. *MYTILUS BIFURCATUS*, *Conr. Journ.* p. 241. pl. 18. f. 14.

Hab. ? California. Mus. Gould, Jay.

This shell is stated by Conrad to inhabit the "Sandwich Islands (Ouai, &c.), attached to rocks bare at low water;" but his authority, when unconfirmed by the notes or remembrance of Mr. Nuttall, is not binding, as one shell which he assigns to the Sandwich Islands he calls *Perna Californica* (p. 245). It occurs among Dr. Gould's Mexican War Shells with the unsatisfactory reference "Californian coast, somewhere."

— 59. *ISOGNOMON COSTELLATA*, *Conr.*

Perna costellata, *Conr. Journ.* p. 246.

Hab. Sta. Barbara, sub saxis. Mus. Jay, Nuttall.

The habitats of Conrad's *Pernæ* are not satisfactorily ascertained. Of *P. incisa* Mr. Nuttall (whose specimen has 6, not 5 teeth) confirms Conrad's locality, viz. Sandwich Islands. Of the shell called *P. Californica*, Mr. Nuttall has no specimen, but believes Conrad is right in stating that it "inhabits with the preceding;" *i. e.* in the Sandwich Islands. The third species, described above, is also assigned by Conrad to the Sandwich Islands, but Mr. Nuttall, who retains his specimen, distinctly refers it to the above locality.

— 60 a. *PECTEN LATIAURATUS*, *Conr. Journ.* p. 238. pl. 18. f. 9; *Rve. Conch. Ic.* pl. 1. sp. 5; *Sow. Thes. Conch.* vol. i. p. 57.

Hab. San Diego et Sta. Barbara; sub effluxum maris. Mus. Nutt., Cum.

60 b. *PECTEN MONOTIMERIS*, *Conr. Journ.* p. 238. pl. 18. f. 10.

Hab. Una cum præcedente. Mus. Jay.

Mr. Nuttall considers that this shell is probably a variety of *P. latiauratus*. The young are occasionally found attached to Fuci by a slender byssus.

61. *OSTREA CONCHAPHILA*, B.M. Cat. Maz. Moll. p. 161. no. 214.
Hab. Oregon, San Diego. Mus. Nuttall.

62. *BULLA NEBULOSA*, Gould.

— *Vide* B.M. Maz. Cat. p. 173. no. 225.

Hab. Sta. Barbara. Mus. Nutt., Brit., Cuming.

63. *HELIX CALIFORNIENSIS*, Lea, Trans. Am. Phil. Soc. vol. vi.
 pl. 23. f. 79, 84; Küst. Conch. Cab. pl. 57. f. 14, 15; Rve. Conch.
 Ic. pl. 115. f. 661; Pfr. 890.

+ *H. Nickliniana*, Lea, teste Jay, Cat. no. 3452.

Hab. Columbia River. Mus. Jay.

64. *HELIX COLUMBIANA*, Lea, Trans. Am. Phil. Soc. vol. vi.
 pl. 23. f. 75; Rve. pl. 118. sp. 692; Pfr. 897.

Hab. California. Mus. Jay.

65. *HELIX FIDELIS*, Gray, P. Z. S. 1834, p. 67; Rve. pl. 114.
 sp. 657; Pfr. 888.

= *H. Nuttalliana*, Lea, Trans. &c. pl. 23. f. 74.

Hab. Oregon. Mus. Jay.

66. *HELIX OREGONENSIS*, Lea, Trans. &c. pl. 23. f. 85; Pfr.
 1121.

Hab. Oregon. Mus. Jay.

— 67. *HELIX VANCOUVERENSIS*, Lea, Trans. &c. pl. 23. f. 72;
 Rve. pl. 116. sp. 669; Pfr. 519.

Hab. Oregon. Mus. Nutt., Jay.

? — 68. *HELIX TOWNSENDIANA*, Lea, Trans. &c. pl. 23. f. 80.

Hab. Oregon. Mus. Gould.

69. *SUCCINEA OREGONENSIS*, Lea, Trans. &c. 1841, p. 32;
 Pfr. 34.

Hab. Oregon. Mus. Jay.

70. *LIMNÆA NUTTALLIANA*, Lea, Trans. &c. 1841, p. 9.

Hab. Oregon. Mus. Jay.

71. *PHYSA*, *sp. ind.*

Allied to *Ph. elata*, Gould, B.M. Maz. Cat. p. 180. no. 237; P.Z.S.
 1856, p. 203.

Hab. Oregon. Mus. Nuttall.

— 72. *PLANORBIS SUBCRENATUS*, n. s.

*P. t. tumida, tenuissima, cornea; anfr. vi. rotundatis, suturis
 impressis; lirulis radiantibus acutis, subconfertis, interdum
 minutissime crenulatis; apertura rotundata, pariete parva,*

anfr. penult. parum attingente; labro parum deflecto, intus fusco; umbilico profundo.

Long. '95, lat. '8, alt. '36.

Hab. Oregon; legit *T. Nuttall*; sp. unic. in Mus. suo.

"Differs from *P. trivolis*, Say, in the acuteness of the ribs, and in their being more distant."—*Cuming, MS.*

— 73. CHITON NUTTALLI, Cpr. P. Z. S. 1855, p. 231.

— 74. CHITON ACUTUS, Cpr. P. Z. S. 1855, p. 232.

75. CHITON ORNATUS, Nutt. P. Z. S. 1855, p. 232.

This may be the *Chiton armatus*, Nutt. of Jay's Cat. 2678; and if so = *Ch. muscosus*, Gould, Exp. Shells, p. 6. The descriptions do not however exactly correspond.

76. "ACMÆA PATINA, Esch. Zool. Atl. ed. Rathke, 1831, p. 19. pl. 24. f. 7, 8; Mid. Bull. Ac. St. Pet. vol. vi. no. 20; Sib. Reise, p. 187. pl. 16. f. 1 *a-d*, 2 *a-c*, 3.

+ *A. scutum*, Esch. loc. cit. p. 19. pl. 23. f. 1-3; teste Mid. loc. cit. et Phil. in Zeit. f. Mal. 1846, p. 107; ? *D'Orb. Voy. Am. MÉR.* p. 479 (excl. fig.).

= *Patella mammillata*, Nutt. in Jay's Cat. no. 2839; Rve. Conch. Ic. pl. 42. f. 140, *a, b*.

+ *Patella tessellata*, Nutt. in Jay's Cat. no. 2885.

+ Jun. *Patella fenestrata*, Nutt. in Jay's Cat. no. 2815; Rve. Conch. Ic. pl. 38. f. 121, *a, b*.

+ *Patella verriculata*, Rve. Conch. Ic. pl. 31. f. 87, *a, b*.

+ *Patella cinis*, Rve. Conch. Ic. pl. 24. f. 60, *a, b, c*.

? + *Patella Nuttalliana*, Rve. Conch. Ic. pl. 30. f. 80, *a, b*.

? + *Patellu Cumingii*, Rve. Conch. Ic. pl. 16. f. 37, *a, b* (*Valparaiso, Cuming*).

? + *Patella diaphana*, Nutt. non Rve. (*v. supra*, p. 203).

= *Lottia pintadina* (pars), Gould, loc. cit. in p. 203.

Hab. Sitcha (*Eschscholtz, Wosnessenski*); Kenai Bay (*do.*); Aleutian Islands, Unalashka (*Kastaljski*); Tugur Bay, Schantar Islands (*Middendorff*); California, passim (*Nuttall*); Monterey, San Diego (*Lieut. Green*); Mazatlan, 2 fresh sp. (*L'pool Coll.*); (?) Chili, Bolivia, Peru (*D'Orbigny*).—*B.M. Maz. Cat. no. 265. p. 207.*

77. ACMÆA PELTA, Esch.

= *Patella leucophaea*, Nutt. MS. (non Gmel.); Jay's Cat. no. 2827; Rve. Conch. Ic. pl. 34. sp. 101.

+ *P. monticola*, Nutt. MS. = *P. monticolor*, Jay's Cat. no. 2844.

+ *P. strigillata*, Nutt. MS.; Jay's Cat. no. 2881.

78. "ACMÆA PERSONA, Esch. Zool. Atl. p. 20. pl. 24. f. 1, 2; Mid. Mal. Ros. pt. ii. p. 36. pl. 1. f. 3.

+ Jun. = *A. radiata*, Esch. loc. cit. p. 20. no. 8 (teste Mid.).

+ *A. ancylus*, Esch. loc. cit. p. 20. no. 10. pl. 24. f. 4 *bis*, 6 (*do.*).

= *A. scutum*, D'Orb. loc. cit. pl. 64. f. 8-10, excl. diagn. (teste Mid.) non *A. scutum*, D'Orb. MS. in B.M. Coll.

? = *Lottia punctata*, Gray (non Quoy & Gaim.), teste Mid.

= *Patella Oregona*, Nutt. in Jay's Cat. no. 2852; Rve. Conch. Ic. pl. 36. f. 112, *a. b.*

+ *P. umbonata*, Nutt. loc. cit. no. 2887; Rve. loc. cit. pl. 35. f. 107, *a, b.*

+ *P. pileata*, Nutt. loc. cit. no. 2861.

Hab. Sitcha (*Eschscholtz*); Mouth of Columbia River (*Nuttall*); Sta. Barbara (*Col. Jewett*); San Diego (*Lieut. Green*); Mazatlan, 1 fresh sp. (*L'pool Coll.*).—B.M. Maz. Cat. no. 266. p. 208.

— 79. *ACMÆA SCABRA*, Nutt.

Lottia scabra, Jay's Cat. no. 2907.

Patella scabra, Rve. Conch. Ic. sp. 119. pl. 37. f. 119, *a, b.*
Non *Patella (Lottia) scabra*, Gould, Exp. Shells, p. 10 = *Patella spectrum*, Nutt.

Hab. California (*Nuttall*); Monterey and Sta. Barbara (*Col. Jewett*); Mazatlan, 1 sp. only (*L'pool Coll.*); S.W. Mexico, 1 sp. (*P. P. C.*)—B.M. Maz. Cat. no. 267. p. 209.

80. *ACMÆA SPECTRUM*, Nutt. Jay's Cat. no. 2877; Rve. Conch. Ic. pl. 29. sp. 76. f. 76, *a, b.*

= *Patella (Lottia) scabra*, Gould, Exp. Shells, p. 10.

Hab. California. Mus. Nutt., Cum., Gould.

— 81. *SCURRIA MITRA*, Less. & Esch.

Patella scurra, Less. Voy. Coq. 1830, Zool. p. 421. no. 198.

Acmæa scurra, D'Orb. Voy. Am. MÉR. p. 478.

Patella (Acmæa) scurra, Mid. Mal. Ross. ii. p. 34.

= *Acmæa mitra*, Esch. Zool. Atl. 1833, p. 18. pl. 23. f. 4.

+ *A. mammillata*, Esch. p. 18.

+ *A. marmorea*, Esch. p. 19.

= ? *Lottia pallida*, Gray, Zool. Beech. Voy. p. 147. pl. 39. f. 1.

= *Scurria scurra*, Gray, olim.

= *Scurria mitra*, Gray, Gen. 1856.

Hab. Valparaiso, abundans (*Cuming*); Monterey, haud rarè (*Nuttall*); Sitcha (*Eschscholtz* & *Wosnessenski*).

— 82. *FISSURELLA ORNATA*, Nutt. MS.

F. t. ovata seu elongata, plus minusve elevata; costis rotundatis, subtuberculosis, haud extantibus, haud æqualibus, confertis, interstitiis parvis, et striulis exillimis concentricis confertissimis ornata; epidermide tenui, subnitente, adhærente; apertura subcentrali, normaliter tripartita, plus minusve elongata; colore, extus griseo (t. juniore rosaceo), radius plus minusve latis, xiii.-xvi., fusco-purpureis seu roseis, eleganter picta; intus, superficie alba, porcellana, margine viridi-cinereo, ra-

diorum finibus penicillato; callositate parum rugosa, t. juniore linea rosea circumeunte.

Var. MONSTROSA. *Variat t. subrotundata, conica, radiis penicillatis, apertura normali rotundata; apertura altera abnormali minima, extus alteri adjacente, intus distante, callositate magna.*

Hab. California Superior; legit T. Nuttall. Mus. suo, B.M.

	long.	long. apert.	lat.	alt.
Sp. normale . . .	1·6	·2	1·12	·42 poll.
Sp. elongatum ..	1·09	·2	·63	·23 „
Sp. monstrosum .	1·	·1	·78	·5 „

This extremely beautiful species varies almost as much as *F. rugosa*, Sow. A similar monstrosity occurring in *F. virescens*, Sow., is described in the B.M. Mazatlan Cat. p. 214. It is, by an oversight, assigned to St. Helena as a habitat, by Dr. Jay, Cat. no. 3003.

83. GLYPHIS * ASPERA, Esch.

Fissurella aspera, Esch. Zool. Atl. pt. v. p. 21. pl. 23. f. 5.

= *F. densiclathrata*, Rve., teste Cum. MS.

= *F. exarata*, Nutt. MS.

Hab. Sitcha (*Eschscholtz*); Sta. Barbara (*Nuttall*). Mus. Nutt., Cum.

— 84. LUCAPINA CRENULATA, Sow.

Fissurella crenulata, Sow. Conch. Ill. no. 19. f. 31, 38; Tank. Cat. App. p. vi.

Hab. San Diego. Mus. Nutt., Cum., Nat. Hist. Philadelphia.

Mr. Nuttall describes the animal of this beautiful shell to be nearly as large as a cheese. He presented his specimen to the Mus. Nat. Hist. Phil. in hopes that the authorities there would describe it; in which he has been thus far disappointed.

85. HALIOTIS CALIFORNIENSIS, Swains. Zool. Ill. vol. ii. pl. 80.

Hab. San Diego.

86. HALIOTIS CRACHERODII, Leach, Sow. Conch. Ill. pl. 7. f. 23.

= *H. glaber*, Schub. & Wagn. pl. 224. f. 3086-7.

Hab. Monterey. Mus. Jay, Nutt.

87. HALIOTIS SPLENDENS, Rve. Conch. Ic. pl. 3. f. 9.

Hab. San Diego.

The black animals of one of these species adhere with such tena-

* Subgenus GLYPHIS = *Lucapina*, H. & A. Ad. Gen. i. 447, maxima pars, non Gray.

Animal *marginē pallii fimbriato, marginem testæ superante. Testa superficie cancellata, marginē crenulato, callositate sæpe truncata, interdum laminata; testâ juniore Rimulæformi, spirâ in apertura crescente absorpta.*

Vide B.M. Maz. Cat. p. 220. *Etyim.* γλυφίς, a notch or triglyph; from the sculptured surface.

city to the rocks, that a clasp knife is broken in endeavouring to loosen them. The natives remove them with bayonets and eat them.

88. *POMALAX UNDOSUS*, Mawe.

Trochus undosus, Wood, Suppl. pl. 5. f. 1. p. 16.

Hab. Monterey. Mus. Nutt., Brit., Cuming.

— 89. *TROCHISCUS NORRISII*, Sow.

Hab. Monterey. Mus. Nutt., Brit., Cuming.

The young shell (teste *Nuttall*) has scarcely any umbilicus, and has a small tooth in the mouth.

— 90. *TROCHUS FILOSUS*, Wood, Suppl. pl. 5. f. 23.

= *Trochus ligatus*, Gould, Exp. Sh. p. 55.

= *T. castaneus* (Nutt. MS.), Forbes, P. Z. S. 1850, p. 271.

Var. = *T. doliarius*, Gould, MS., non Chem.

? Var. = *Ziziphinus annulatus*, A. Ad. P. Z. S. 1851, p. 164 = *Trochus virgineus*, Gould, MS., non Mart. in Lam. An. s. Vert. vol. ix. p. 144. no. 51.

= *Trochus virgineus*, Chemn.

The Lamarckian species are said to come from New Zealand, and are probably allied forms. If that should prove incorrect, the name of Wood will give way. As it is, so indifferent a figure scarcely deserves precedence of the described species of Gould. Mr. Nuttall considers the two Californian forms conspecific.

91. *OMPHALIUS ATER*, Less.

= *T. gallina*, Forbes, P. Z. S. 1850, p. 271.

Hab. California. Mus. Nutt., Cum., Brit., &c.

92. *OMPHALIUS FUSCESCENS*, Phil.

= *Trochus luridus*, Nutt. MS.

Hab. Sta. Barbara. Mus. Nutt., Cum., Brit.

— 93. *OMPHALIUS MARGINATUS*, Nutt.

Hab. California. Mus. Nutt., Brit.

— 94. *OMPHALIUS AUREOTINCTUS*, Forbes.

Trochus aureotinctus, Forbes, P. Z. S. 1850, p. 271.

? = *Trochus pallidus*, Nutt. MS.

= *T. cateniferus*, Poliez, teste Gould.

Hab. California. Mus. Nutt., Brit., Cum.

— 95. *CREPIDULA RUGOSA*, Nutt. MS.

Cr t. " *Cr. onici* " *simili, sed epidermide nitente, tenui, adhærente; vertice nucleoso Velutinæ-formi; t. juniore intense atro-*

fusca; *septo subdiaphano, margine magis declivi*; *intus et ad apicem atro-purpureo*; *margine acuto*.

Long. 1·97, lat. 1·26, alt. ·54.

Hab. California Superior; legit *T. Nuttall*. *Museis suo*, Jay, Cuming.

This shell is regarded by Dr. Jay as identical with *Cr. onyx*, Sow. (= *Cr. hepatica*, C. B. Ad. ? non Desh.), which it resembles in the character of the spire, and in the general appearance. The specimens examined differ in colour, which is not so lustrous; in habit of growth, which is not lamellar; in the septum, which is rather less opaque, particularly in the young shell; and especially in the epidermis, which is glossy, and only interrupted by the wrinkles of growth beneath. Whether these differences are of specific value, must await the examination of more numerous specimens. *Vide* B.M. Maz. Cat. no. 340. p. 278.

96. CREPIDULA —, sp. ind.

Crepidula navicelloides, Nutt. MS. in Jay's Cat. no. 3035.

Comp. *Crepidula minuta*, Mid. Mal. Ross. pl. 11. f. 6, 7. p. 101 (Sitka).

Comp. *Crepidula nummaria*, Gould, Exp. Shells, p. 15.

Hab. California. *Mus.* Jay, Nutt.

From the very imperfect materials, it is impossible to determine this species with confidence. It has a great resemblance to *C. nivea*, var. *squama* (v. B.M. Maz. Cat. no. 341. p. 280), but the apex appears distinct both from that and *C. unguiformis*. Middendorff's young shell is probably conspecific; and the species may hereafter include the following.

97. CREPIDULA EXPLANATA, Gould, Mex. & Cal. Shells, p. 4. pl. 14. f. 7; P. Z. S. 1856, p. 205.

= *Crepidula exuviata*, Nutt. MS. in Jay's Cat. no. 3027.

= *Crepidula perforans*, Val. Voy. Ven.

Hab. California. *Mus.* Jay, Gould, Cuming.

This shell appears an aberrant form of the last species, caused by living in the hole of a *Lithophagus*. The young shell is normal; the nucleus is large, smooth, not imbedded as in *Cr. unguiformis*, nor standing out as in *Cr. nivea*. There is only one large spiral turn. The most peculiar character of the shell is the cancellation between the laminæ, but this only appears in some of the specimens. Distortions occur of the true *Cr. nivea*, almost equally aberrant in form. *Vide* B.M. Maz. Cat. p. 284.

98. CREPIDULA ACULEATA, var.

= *Crepidula Californica*, Nutt. MS. B.M. Maz. Cat. p. 268. no. 334.

Hab. Sta. Barbara, frequens. *Mus.* Nutt., Brit., Warrington, &c.

99. CRUCIBULUM SPINOSUM, Sow. B.M. Cat. Maz. Moll. no. 344. p. 290.

Hab. Monterey, rarissime. *Mus.* Nuttall.

No. CCCXV.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

100. HIPPONIX GRAYANUS, Mke. Proc. Zool. Soc. 1856, p. 4 ;
B.M. Maz. Cat. no. 350. p. 299.

Hab. California, rarissime. Mus. Nuttall.

101. SPIROGLYPHUS —, sp. ind.

Hab. Sta. Barbara, *Crepidulam aculeatam* erodente. Sp. jun. in
Mus. Nuttall.

102. ALETES* SQUAMIGERUS, n. s.

*A. t. majore, flavido-albida, solute spirali, plerumque glomerata ;
superficie costis spiralibus, squamis instructis ; costulis pluribus
intercalantibus, squamulis minoribus ; squamis et squamulis im-
bricatis, arcuatis ; interdum aperturam versus sculptura obso-
leta.*

Hab. Sta. Barbara. Sp. magn. glomer. in Mus. Nuttall ; San
Diego, Mus. Gould.

A fine group of this shell is in Mr. Nuttall's collection. It agrees
in the main with the Mazatlan species, but differs in colour and
sculpture. Mr. Nuttall believes that he found another species with-
out scales.

103. PETALOCONCHUS MACROPHRAGMA, n. s., B.M. Maz. Cat.
no. 359. p. 309 ; et *Monogr. Petaloconchorum* (Proc. Z. S. *postea*).

Hab. San Diego, *Euraphiæ Hembeli* adhærens. Mus. Nuttall.

Of the remarkable *Cirripedi* to which this shell is attached, only
two specimens were found by Mr. Nuttall, and described by Conr.
Journ. p. 261. pl. 20. f. 13.

104. CERITHIDEA SACRATA, Gould.

Cerithium (*Potamis*) *sacratum*, Gould, Exp. Shells, p. 60.

= *Pirena Californica*, Nutt. MS.

Hab. Monterey, Sta. Barbara, &c., aquis mixtis. Mus. Nutt.,
Brit.

— 105. LITORINA PLANAXIS, Phil.

= *Littorina tenebrata*, Gould.

Hab. California. Mus. Nutt., Brit.

* The genus *Siphonium* is thus characterized and divided in the B.M. Maz.
Cat. p. 301.

Genus SIPHONIUM, Bronne.

*Testa valde irregularis, juniore haud turritelloidea. Operculum tenue, con-
cavum, simplex.*

A. Species typici. *Operculo valde concavo, vix spirali.*

Oceanis Indico et Atlantico repertæ.

B. Subgenus ALETES (*ἀλήτης*, errator). *Opercula parum concavo, multispiri-
rali, fere ut in Turritella formato.*

For further information on the opercula of *Vermetidæ*, v. B.M. Maz. Cat.
pp. 300-312.

106. NATICA ? MAROCCANA, var. CALIFORNICA.

N. ? M. t. aurantio-fusca, labio intus suturam calloso ; operculo extus solidiore, margine minus extante, ad nucleum magis calloso.

Long. .88, long. spir. .22, lat. .72, div. 100°.

Hab. California Superior ; legit *T. Nuttall*, Mus. suo ; legit *Lady K. Douglas*, Mus. Brit.

The specific identity of shells belonging to this type from different faunas, is not yet decided. As compared with the W. Mexican shells (*N. Pritchardi*, Forbes, = *N. Chemnitzii*, Pfr.), the Californian specimens are rather more coarse-grained and solid, with the parietal callosity stronger under the suture. The operculum is thicker, with the margin less turned-up in proportion. Colour orange-brown, sometimes obscurely banded.

107. RANELLA TRIQUETRA, teste Nutt. MS.

Hab. San Diego. Mus. Nuttall.

Exceedingly like a young *Vitularia salebrosa*.

108. MITRA MAURA, teste Nutt. MS.

Hab. California Superior. Mus. Nuttall.

109. OLIVELLA GLANDINARIA, Nutt.

Glandinaria Californica, Nutt. MS.

O. t. bulbiformi, in medio inflata, utrinque regulariter constricta ; spira satis elevata, acuta ; haud polita, purpureo-fusca, in spira aurantia, circa basin violaceo tincta ; apertura antice dilatata ; columella ad basin biplicata ; labio calloso, lævi ; callositate basali haud lata.

Long. .88, long. spir. .29, lat. .47, div. 70°.

Hab. In California Superiore ; legit *T. Nuttall*. Sp. unic. in Mus. suo.

The genus *Glandinaria* appears to have been proposed (not published) by Mr. Nuttall, in ignorance of the establishment of *Olivella* by D'Orbigny, with which it exactly coincides. The name is retained for the very well marked species, in preference to the ill-used *Californica*.

110. BUCCINUM POULSONI, Nutt. MS.

Hab. Upper California. Mus. Nuttall.

111. PURPURA APERTA, Blainv. var.

Purpura aperta, Kien. Icon. Conch. p. 81. no. 51. pl. 20. f. 59, et var. pl. 22. f. 64 ; Rve. Conch. Ic. pl. 3. sp. 15 ; Jay's Cat. no. 8942.

Purpura macrostoma, Conr. Journ. p. 267.

Hab. Sta. Barbara. Mus. Jay.

Conrad says this species may be readily distinguished from *P. aperta*, but does not say how. Dr. Jay considers the two identical ;

and as he seems to have the type, his opinion is followed. Mr. Reeve's reference to the *Nouv. Ann. Mus.* cannot be verified. It appears to have been published by Kiener from a manuscript name.

112. PURPURA HARPA, *Conr. Journ.* p. 266. pl. 20. f. 25.

Hab. Sta. Barbara. *Mus.* Nuttall.

— 113. PURPURA EMARGINATA, *Desh.*

= *P. Conradi*, *Nutt. MS.*; teste *Jay, Cat.* 8972. *Mus. suo.*

Hab. California.

— 114. MONOCEROS ENGONATUM, *Conr.*

P. (Monoceros) engonata, *Conr. Journ.* p. 264. pl. 20. f. 17: *diagn. auct.*

"*M. t. fusiformi; anfractibus superne angulo saliente carinatis, spiraliter sulcatis, striis incrementi vix decussatis; anfr. tertio longitudinaliter costellato; pallida, maculis fuscis, intensioribus, angulatis, ornata; intus alba, maculis paucis purpureis;*" *apertura valde elongata; canali haud parva; labro intus dentibus plurimis; "acanthina tenui, gracillima."*

Hab. Sta. Barbara. *Mus.* Nuttall, *Brit., Jay*, 9067.

= *Monoceros unicarinatum*, *Reeve, Conch. Ic.* sp. 1: *diagn. sol.*, *syn. plerumque excl.*, pl. 1. f. 1, *excl.*: non *M. unicarinatum*, *Sow.*, nec *Desh.*

Comp. Purpura spirata, *Blainv. Nouv. Ann. Mus.* vol. i. 1832, pl. 12. f. 8. p. 252. no. 105; *Kien. Icon. Conch.* p. 121. no. 76. pl. 38. f. 90.

= *Monoceros unicarinatum*, *pars, Desh. in Lam. An. s. Vert.* vol. x. p. 124. no. 10, *syn. Angl. excl.*

The shell figured by Conrad and found in Mr. Nuttall's collection is very triangular, with a pointed base. The *P. spirata* of Blainville (described and figured with his usual accuracy, for which credit has not been given to him by some authors, who, wanting it in their own works, have added great labour to students) is a Sandwich Island shell, brought by M. Botta, very obtusely angulated, with a swollen base, scarcely acanthoid, and a canal long enough for *Chorus*, Gray. It is remarkable for the scaly keel of the upper whorls. This shell is reproduced by Kiener in a different form, who affiliates Sowerby's species (apparently constituted from a Nuttallian specimen received through Dr. Jay by Mr. Cuming) to that in the Paris Museum. Deshayes, copying this error, and not even adopting Blainville's earlier specific name, gives the name and reference of Sowerby, with a description in the main belonging to the Blainvillian species, although perhaps with some additions from Sowerby's figure. Mr. Reeve completes the confusion by describing a shell, "*anfr. superne angulatis*," very probably the true *P. engonata* of Conrad which he quotes; at the same time quoting the two different shells above named (one of them under two names, *P. spicata* and *P. spirata*), and figuring a very different shell, not angulated at all. To mere

learners, like the author of the present paper, such differences are exceedingly perplexing.

115. *MONOCEROS BREVIDENS*, Conr.

P. (Monoceros) brevidens, Conr. Journ. p. 264: diagn. auct.

"*M. t. fusiformi, solida, spira curtioire; anfr. superne angulo haud saliente munitis; tumidioribus basin versus; "acantha curtioire, solidiore; spiraliter sulcatis," sulcis interdum obsoletis.*

Monoceros unicarinatum, Sow. Conch. Ill. no. 14. p. 4. f. 5; non Reeve, Conch. Ic. sp. 1, nec Desh. in Lam. An. s. Vert. no. 10, diagn. = *Monoceros*, pl. 1. f. 2 (non sp. 2); Reeve, loc. cit.

Non *Monoceros brevidentatum*, Gray in Wood, Suppl. (1828) p. 12. no. 10, p. 43. pl. 4. no. 10; Sow. Conch. Ill. f. 4; Reeve, Conch. Ic. pl. 1. sp. 4. f. 4 *a, b*; Desh. in Lam. An. s. Vert. vol. x. p. 123. no. 9 = *Purpura cornigera*, Blainv. Nouv. Ann. Mus. vol. i. p. 213. no. 28. pl. 9. f. 10; Kien. Icon. Conch. p. 123. no. 78. pl. 39. f. 92 = *Monoceros maculatum*, Gray ipse in Zool. Beech. Voy. p. 125.

Hab. Sta. Barbara. Mus. Nutt., Cum., Jay.

The exact date of Sowerby's species, which is generally referred to the *P. engonata* of Conrad, but differs from the figure of that shell, and agrees much better with the description of this, is difficult to determine. The volume bears date 1841. It differs from *P. engonata* in being swollen at the base, with less sculpture and applanation.

116. *MONOCEROS LAPILLOIDES*, Nutt.

P. (Monoceros) lapilloides, Conr. Journ. p. 265. pl. 20. f. 18 (1837).

"*M. t. fusiformi, curta, solida; anfr. superne vix concavis; sulcis spiralibus obsoletis; pallida, maculis fuscis quadratis seriebus spiralibus ornata; apertura et columella purpureis; labro marginem versus albidam.*"

= *Monoceros punctulatum*, Sow. Conch. Ill. p. 4. no. 13. f. 3.

= *Monoceros punctatum*, Gray in Zool. Beech. Voy. (1839), p. 124; Reeve, Conch. Ic. sp. 2. pl. 1. f. 1 (non f. 2).

Hab. Sta. Barbara (Nuttall). Is. Cocos, in rupibus (*Capt. Colnett*). Mus. Brit., Nutt., Cuming, &c.

The differences between the specimens of Californian *Monoceros* are so numerous, and similar species from other quarters are so variable, that the three species here repeated from Conrad are given with very great hesitation. That the forms figured by Sowerby and Reeve are conspecific, is by no means improbable; the form *engonata* is the most aberrant, but it is by no means unapproached.

MUREX, Subgenus *CEROSTOMA*, Conr.

Murex; labro ut in Monoceros (Acanthina) dentato, dente erecto.

117. *CEROSTOMA NUTTALLI*, Conr. Journ. p. 264. pl. 20. f. 22; Jay's Cat. no. 8298.

Hab. Sta. Barbara. Mus. Nuttall, Jay.

5. SYNOPSIS AVIUM TANAGRINARUM.—A DESCRIPTIVE CATALOGUE OF THE KNOWN SPECIES OF TANAGERS.

BY PHILIP LUTLEY SCLATER, M.A., F.Z.S. ETC.

Part III.—Containing the genera *Spindalis*, *Tanagra*, *Dubusia*, *Compsocoma*, *Buthraupis*, *Stephanophorus*, *Pæcilothraupis*, *Iridornis*, *Calliste*, *Diva*, *Pipridea*, *Chlorochrysa*, *Tanagrella*, *Glossiptila*, *Chlorophonia*, and *Euphonia*.

Genus XXV. SPINDALIS.

Spindalis, Jard. & Selby, Ill. Orn. n. s. (1836).

Rostrum Tanagræ, *sed basi latiore et culmine incurviore* : *alæ modicæ* ; *remigibus tertia et quarta longissimis, secunda quintam æquante, prima sextam paulo superante* : *cauda modica, quadrata* : *sexus dissimiles*.

1. SPINDALIS NIGRICEPHALA.

Serinus jamaicensis, Briss. Orn. iii. 189 (*undè*),

Fringilla cana, Gm. S. N. 290 (?).

Tanagra nigricephala, Jameson, Ed. N. Phil. Journ. xix. 213 ; Gosse, Ill. B. Jam. pl. 56.

Spindalis bilineatus, Jard. & Selby, Ill. Orn. n. s. pl. 9.

Tanagra zena, Gosse, B. Jam. p. 231.

Tanagra zenoides, Des Murs, Icon. Orn. pl. 40.

Spindalis nigricephala, Bp. Consp. p. 240.

Olivacea : *uropygio flavicante* : *capite toto cum gutture nigris, superciliis latis et stria rictali cum gula summa albis* : *abdomine aurescente, pectore aurantiaco, ventre imo et crisso albis* : *alis nigris albo marginatis* : *cauda nigra, rectrice una utrinque extima albo extus limbata et intus terminata* : *tectricibus subalaribus albis*. ♀. *Olivacea, capite cinerascentiore, uropygio flavescentiore* : *subtus cinerea, abdomine medio aurescente* : *ventre imo crissoque albidis* : *alis caudaque nigris, illis albo limbatis*.

Long. tota 7·5, alæ 4·2, caudæ 3·2.

Hab. Jamaica (*Gosse*).

Mus. Brit., &c.

2. SPINDALIS MULTICOLOR.

Tanagra multicolor, Vieill. Enc. Méth. p. 776 ; Gal. Ois. i. p. 100. pl. 76.

Spindalis multicolor, Bp. Consp. p. 240.

Capite nigro : *stria utrinque superciliari et maxillari albis* : *cervice postica aurantia, interscapulio olivaceo, dorso imo aurescenti-castaneo* : *alis nigris albo limbatis* : *tectricibus alarum minoribus castaneis* : *subtus, mento albo* ; *gula media flava, macula utrinque magna nigra* ; *pectore summo castaneo, inferiore cum ventre aureis* ; *ventre imo cum crisso albis* ; *rectri-*

cibus nigris, duabus utrinque extimis albo variis; rostro et pedibus nigris. ♀. Supra olivascens, uropygio flavescentiore: subtus albescens olivaceo indutus, ventre medio albo: alis nigris, albo limbatis.

Long. tota 6·2, alæ 3·2, caudæ 2·8.

Hab. S. Domingo (*Vieillot*) (*Sallé*).

Mus. Brit.

This is a smaller bird than the *S. nigricephala*, and has the lesser wing-coverts chestnut and not black. From the true *zena* it may be distinguished by its smaller bill, the more extended and brighter yellow colour on the belly, and by its having the whole back of the neck bright yellow, not dark chestnut.

3. SPINDALIS ZENA.

Fringilla bahamensis, Briss. Orn. iii. 168; Catesby, Car. i. pl. 42.

Fringilla zena, Linn. S. N. i. 320.

Tanagra zena, d'Orb. in Sagra Hist. Cub. p. 74. pl. 11; Gray, Gen. p. 365. sp. 13 (*partim*).

Tanagra pretrei, Less. R. Z. 1839, p. 102; Cent. Zool. p. 122. pl. 45; Gray, Gen. p. 365. sp. 14.

Spindalis zena et pretrei, Bp. Consp. p. 248.

Spindalis pretrei, Cab. Journ. f. Orn. 1855, p. 476.

Supra nigra: cervice postica et dorso imo brunnescenti-castaneis: stria superciliari et maxillari utrinque albis: alis nigris albo limbatis: mento summo albescente: gula media flava, laterali utrinque nigra: pectore summo castaneo, inferiore aureo: ventre cinerascens, crisso albo: rectricibus nigris: harum utrinque extimis albo variegatis.

Long. tota 5·8, alæ 2·9, caudæ 2·6.

Hab. Cuba (*Ramon de la Sagra*); Bahamas (*Catesby*).

Mus. Brit.

Genus XXVI. TANAGRA.

Tanagra, Linn. S. N. i. p. 316 (1766).

Thraupis, Boié, Isis, 1826, p. 974.

Rostrum subincurvum, tam altum quam latum, modice elongatum et dente finali instructum; culmine incurvo; gonyde paulo ascendente: ulæ modicæ; remigibus secunda tertia et quarta longissimis, prima paulo brevior: cauda modica, quadrata: ptilosis cærulea: sexus plerumque similes, sed aves juniores diversæ.

1. TANAGRA EPISCOPUS.

Episcopus avis, Briss. Orn. iii. p. 40.

Tanagra episcopus, Linn. S. N. i. p. 316; Strickl. Ann. N. H. xx. p. 332; Bp. R. Z. 1851, p. 170; Note s. l. Tang. p. 21; Sclater, P. Z. S. 1855, p. 157.

Gracula glauca, Sparm. Mus. Carls. pl. 54.

Tanagra glauca, Gray, Gen. p. 364. sp. 5.

Tanagra serioptera, Sw. An. in Men. p. 313; Schomb. Guian. iii. 670; Cab. Mus. Hein. p. 28.

Cærulescenti-cana; dorso obscuriore; uropygio cyaneo lavato: alis caudaque nigris cæruleo limbatis: tectricibus alarum minoribus albis, nitore cyaneo; majoribus autem eodem colore vix marginatis.

Long. tota 6·0, alæ 3·5, caudæ 2·4.

Hab. British Guiana (*Schomb.*); Cayenne; New Grenada, Bogota.

Mus. Brit., &c.

The *T. episcopus* of Linnæus depends upon Brisson's '*Episcopus avis*,' and from Brisson's description and locality I think there can be little doubt that the present species with white shoulders and narrow edgings to the greater coverts was intended.

The only bird likely to be confounded with it is the next following species *T. cælestis*, which has a regular *white bar* across the wings formed by the pure white terminations of the greater coverts.

2. TANAGRA CÆLESTIS.

Tanagra cælestis, Spix, Av. Bras. ii. p. 42. pl. 55. fig. 2; Bp. P. Z. S. 1837, p. 121; R. Z. 1851, p. 169; Note s. l. Tang. p. 20; Slater, P. Z. S. 1854, p. 115.

Tanagra sayaca, Tsch. Wieg. Arch. 1844, p. 286; F. P. p. 203. *Thraupis episcopus*, Cab. Mus. Hein. p. 28 (note).

Cærulescenti-cana, *subtus dilutior*: alis caudaque nigris cæruleo limbatis: tectricibus alarum minoribus candidis, majoribus quoque albo late terminatis.

Long. tota 6·5, alæ 3·8, caudæ 2·7.

Hab. Upper Amazon, Fonteboa (*Spix*); Pintobamba (*Cast. et Dev.*); prov. Quixos, Ecuador.

Mus. Parisiensi.

3. TANAGRA CANA.

Tanagra cana, Sw. Orn. Dr. pl. 37 ♂ (adult); Strickl. Ann. N. H. xx. p. 332; Slater, P. Z. S. 1855, p. 157.

Tanagra cælestis, Sw. Orn. Dr. pl. 41 (juv.)?

Tanagra Swainsoni, Gray, Gen. p. 364. sp. 7.

Thraupis cana, Cab. Mus. Hein. p. 29.

Tanagra episcopus, Schomb. Guian. iii. p. 670?

Tanagra sayaca, Bp. R. Z. 1851, p. 170; Note s. l. Tang. p. 21.

Cærulescenti-cana; dorso obscuriore: uropygio cyanescente: alis caudaque nigris cæruleo limbatis: tectricibus alarum minoribus violaceo-cyaneis: majorum autem marginibus angustis intense cæruleis.

Long. tota 6·4, alæ 3·6, caudæ 2·4.

Hab. Venezuela; Trinidad; Tobago (*Kirk.*); New Grenada, Bogota; British Guiana (*Schomb.*).

Mus. Brit., &c.

These blue 'Bishop' Tanagers are very puzzling, and I confess I am as yet quite unable to arrange them satisfactorily. After separating the true 'episcopus' and 'caelestis' (which are clearly distinct) and the large South Brazilian 'cyanoptera' (which may also be recognized without much difficulty), there remain four or five birds with different names attached to them varying a good deal in the amount of blue on the wings, but not otherwise presenting very appreciable differences. At present I am inclined to refer them to two species—a South American bird with the lesser wing-coverts of a more or less violet tint—and a Central American and Mexican species with these parts deep blue—like the South Brazilian *T. cyanoptera*. The former bird is common in collections from Bogota and Trinidad, and seems to range so far south as the Amazon at Para. The latter extends from the north coast of New Grenada through Central America as far north as the province of Vera Cruz, whence specimens have lately been brought by M. Sallé.

4. TANAGRA DIACONUS.

Tanagra (Aglaia) diaconus, Less. R. Z. 1842, p. 175.

Calliste diaconus, Gray, Gen. p. 466. sp. 29.

Tanagra episcopus, Bp. P. Z. S. 1837, p. 116.

Tanagra diaconus, Sclater, P. Z. S. 1856, p. 142.

Tanagra cyanilia, Bp. Notes Orn. p. 62?

Thraupis glaucocolpa, Cab. Mus. Hein. p. 28?

Cærulescenti-cana: dorso toto obscuriore: uropygio vix cærulescente: alis caudaque nigris cæruleo limbatis: tectricibus alarum minoribus lætissime cæruleis.

Long. tota 6·2, alæ 3·5, caudæ 2·5.

Hab. South Mexico, Cordova (Sallé); Guatimala (Bp.) (Constancia); Nicaragua, Realejo (Less.); Chiriqui (Bridges); New Grenada, S. Martha (Verreaux).

5. TANAGRA CYANOPTERA.

Tanagra brasiliensis varia, Briss. Orn. iii. p. 18 (?).

Tanagra sayaca, Linn. S. N. i. p. 316 (?); Max. Beitr. iii. 484 (certè).

Loxia virens, Linn. S. N. i. p. 303 (?).

Tanagra virens, Strickl. Ann. N. H. xx. 332 (certè).

Lindo saihobi, Azar. Pax. i. p. 370.

Saltator cyanoptera, Vieill. N. D. d'H. N. xiv. p. 104; Enc. Méth. p.

Tanagra episcopus, Hartl. Ind. Az. p. 6; d'Orb. Voy. p. 274; Sw. Orn. Dr. pl. 39 (adult).

Tanagra inornata, Sw. Orn. Dr. pl. 40 (juv.); Gray, Gen. p. 364. sp. 8; Bp. Consp. p. 238.

Tanagra argentata, Gray, Gen. p. 364. sp. 6.

Tanagra prælatus, Less. Tr. d'Orn. p. 463.

Tanagra cyanoptera, Bp. R. Z. 1851, p. 170; Note s. l. Tang. p. 21.

Thraupis cyanoptera, Cab. Mus. Hein. p. 29.

Thraupis sayaca, Cab. Mus. Hein. p. 28.

Major : *supra virescenti-cana* : *subtus grisescentior* : *alis nigris virescenti-cæruleo limbatis* : *tectricibus minoribus intense cæruleis*.

Long. tota 6·5, alæ 3·8, caudæ 2·8.

Hab. South-east Brazil (*Max.*); Rio Grande do Sul (*Plant*); Paraguay (*Az.*); Corrientes and Buenos Ayres (*d'Orb.*); Bolivia, Cochabamba, Valle Grande and Yungas (*d'Orb.*).

Mus. Brit., &c.

6. TANAGRA ORNATA.

Tanagra ornata, Sparm. Mus. Carls. pl. 95 ; Sw. Orn. Dr. pl. 42 ; Gray, Gen. p. 364. sp. 2 ; Bp. Consp. p. 238 ; R. Z. 1851, p. 470 ; Note s. l. Tang. p. 21 (*partim*).

Tanagra archiepiscopus, Desm. Tan. pl. 17 ; Spix, Av. Bras. ii. p. 42. pl. 55. fig. 1 ; Max. Beitr. iii. 481 ; Schomb. Reise, iii. 670.

Thraupis ornata, Cab. Mus. Hein. p. 28.

Archbishop Tanager, Lath. G. H. vi. 16.

Olivaceo-viridis : *interscapulio obscuriore* : *pileo cæruleo* : *subtus fuscus cæruleo lavatus* : *alis caudaque nigris olivaceo limbatis* : *campteriis cæruleis* : *tectricibus alarum minoribus flavis*.

Long. tota 6·5, alæ 3·8, caudæ 2·8.

Hab. South-east Brazil (*Max.*); British Guiana (*Schomb.*).

Mus. Brit., &c.

7. TANAGRA PALMARUM.

Tanagra palmarum, Max. Reise, ii. p. 76 (1821) ; Beitr. iii. 489.

Tanagra olivascens, Licht. Doubl. p. 32 ; d'Orb. Voy. p. 274 ; Sw. Orn. Dr. pl. 38 ; Schomb. Reise, iii. 670.

Thraupis olivascens, Cab. Mus. Hein. p. 28.

Tangara Evêque, femelle, Desm. Tan. pl. 16 !

Tanagra ornata ♀, Bp. R. Z. 1851, p. 170, et Note s. l. Tang. p. 21 !!

Tang. de Cayenne, femelle, Buff. Pl. Enl. 178. fig. 2 ?

Intense oleagineus : *interscapulio obscuriore* : *tectricibus alaribus capite fere concoloribus sed paulo clarioribus* : *remigibus et recticibus cum alula spuria fusco-nigris olivaceo-viridi marginatis* : *remigum basi albescenti-olivacea, vittam indistinctam transalarem formante*.

Long. tota 7·0, alæ 3·7, caudæ 2·7.

Hab. Brazil, Para (*Wallace*) ; Rio Bahia, &c. ; Bolivia (*d'Orb.*) ; British Guiana (*Schomb.*) ; Cayenne ; Trinidad.

Mus. Brit., &c.

Prince Bonaparte, in his 'Note s. l. Tangaras,' has followed the example of some of the older authors in considering this bird as the female of *T. ornata* ; but I have not the slightest doubt that it is quite a distinct species. See d'Orbigny's Voyage, p. 274, and P. Max. of Neu Wied's Beitrage, iii. 489.

8. TANAGRA MELANOPTERA.

Tanagra olivascens, Tsch. F. P. p. 204 ?

Tanagra palmarum, Sclater, P. Z. S. 1855, p. 177 ?

Tanagra melanoptera, Hartl. R. Z.

Similis *T. palmarum*, sed paulo minor et coloribus lætioribus, dorso et ventre purpurascensioribus : alæ dimidio apicali nigro, plumis non viridi limbatis.

Long. tota 6·7, alæ 3·7, caudæ 3·3.

Hab. East Peru (*Hartlaub*) ; New Grenada, Bogota.

Mus. Bremensi.

This is perhaps a local variety only of the common *T. palmarum*, presenting no green edgings to the primaries or secondaries beyond the green bar. I have birds from S. Martha, Trinidad and Bolivia, which seem intermediate between this and the former species.

9. TANAGRA ABBAS.

Tanagra abbas, Licht. Preis-Verz. no. 70 (1831).

Tanagra vicarius, Less. Cent. Zool. pl. 68 ; Gray, Gen. p. 364. sp. 4 ; Bp. Consp. p. 238 ; P. Z. S. 1837, p. 116 ; R. Z. 1851, p. 171 ; Note s. l. Tang. p. 22.

Thraupis vicarius, Cab. Mus. Hein. p. 29.

♂. *Pallide olivascens* : capite cæruleo, gutture cærulescente : interscapulii pennis medialiter nigricantibus : alis caudaque nigris : speculo in basi primariorum et secundariorum flavissimo : tectricibus alarum majoribus olivaceis, minoribus cærulescentibus : rostro et pedibus nigris.

♀. *Mari similis*, sed coloribus paulo dilutioribus : gutture vix cærulescente.

Long. tota 7·0, alæ 4·0, caudæ 2·9.

Hab. S. Mexico, Cordova (*Sallé*) ; Orizaba (*Botteri*) ; Honduras (*Dyson*) ; Guatimala (*Constancia*).

Mus. Brit., Derbiano, &c.

10. TANAGRA STRIATA.

L'Onglet, Buff. H. N. iv. p. 256.

Tanagra striata, Gm. S. N. i. p. 899 ; d'Orb. Voy. p. 275 ; Bp. Consp. p. 239 ; Hartl. Ind. Az. p. 6.

Le Noir-souci, Buff. H. N. iv. 150 ?

Loxia bonariensis, Gm. S. N. p. 850 ?

Lindo celeste oro y negro, Azar. Pax. i. p. 375.

Tanagra chrysogaster, Cuv. Règ. An. i. p. 366 ; Puch. Arch. Mus. Paris, vii. 344.

Aglaiia striata, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 32 ; G. R. Gray, Darwin's Voy. Beagle, p. 97.

Tanagra darwini, Bp. P. Z. S. 1837, p. 121 (♀) ; Darwin's Voy. pl. 34 (♂).

Tanagra frugilegus, Tsch. Av. Consp. in Wieg. Arch. 1844, p. 286 ; F. P. p. 204. pl. 17. fig. 1 ; Hartl. R. Z. 1849, p. 286 (♀).

Calliste frugilegus, Bp. Consp. p. 236. sp. 41.

Chrysothraupis frugilegus, Bp. R. Z. 1851, p. 143; Note s. l. Tang. p. 22.

♂. *Niger, dorso postico et abdomine aurantiacis, ventre imo in flavum transeunte: capite et gutture undique cum marginibus alarum et caudæ cæruleis: rostri ambitu nigro.*

♀. *Mari similis, sed dorso et scapularibus olivaceis, abdomine toto aurescenti-flavo.*

Avis junior. *Fusco-olivascens subtus grisescenti-albidus: capite cærulescente, uropygio flavido tincto.*

Long. tota 6·8, alæ 3·7, caudæ 2·8.

Hab. Southern Brazil, Rio Grande do Sul (*Plant*); Uruguay, Maldonado (*Darwin*); Montevideo, Buenos Ayres, Corrientes, Peru and Bolivia (*d'Orb.*); Paraguay (*Azara*); Western Peru, Lima (*Tsch.*); Western Ecuador, fruit gardens of Lima (*Tsch.*).

Mus. Brit., &c.

I believe now that there is little doubt that the olive-backed bird named *T. darwini* by Prince Bonaparte, and afterwards *T. frugilegus* by Tschudi, is really the female of *T. striata*, though at one time I thought otherwise. I have not yet seen the black-backed male from the western side of the Andes; but d'Orbigny's Bolivian collection in the Paris Museum contains examples of both sexes from the eastern side.

If the birds from all the localities given are identical, which I believe to be the case, this *Tanager* presents an instance of a remarkably extensive geographic range for a bird of this family.

11. TANAGRA CYANOCEPHALA.

Aglaia cyanocephala, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 32.

Tanagra maximiliani, d'Orb. Voy. p. 276. pl. 23. fig. 2.

Tanagra cyanocephala, Gray, Gen. p. 364. sp. 11; Bp. Consp. p. 238; Tsch. Wieg. Arch. 1844, p. 286; F. P. p. 205 (?).

Thraupis cyanocephala, Cab. Mus. Hein. p. 29?

Supra flavo-olivacea: pileo cæruleo: nucha viridescente: capitis lateribus nigris: subtus cinerea: ventre imo crissoque flavis viridi tinctis: tectricibus subalaribus pure flavis.

Long. tota 7·8, alæ 3·5, caudæ 3·1.

Hab. Bolivia, Sicasica (*d'Orb.*); Western Peru, Lima (*Tsch.*).

Mus. Brit., Paris.

12. TANAGRA AURICRISSA.

Dubusia cyanocephala?, Sclater, P. Z. S. 1855, p. 157.

Dubusia auricrissa, Sclater, P. Z. S. 1855, p. 227.

Supra flavescenti-olivacea: capite toto et nucha cæruleis: loribus nigris: subtus cærulescenti-cinerea: tectricibus subalaribus et ventre imo crissoque cum tibiis flavissimis.

Long. tota 6·5, alæ 3·6, caudæ 3·0.

Hab. New Grenada, Bogota.

Mus. Brit., Paris.

13. TANAGRA OLIVICYANEA.

Tanagra olivicyanea, Lafr. R. Z. 1843, p. 69; Bp. Consp. p. 238.

Tachyphonus olivicyaneus, Gray, Gen. p. 365. sp. 15.

Dubusia olivicyanea, Sclater, P. Z. S. 1855, p. 157.

Supra flavescenti-olivacea: capite undique et corpore subtus cæruleis: ventre imo crissoque olivascenti-flavis: tibiis et tectricibus subalaribus flavissimis: loris nigris.

Long. tota 7·3, alæ 2·5, caudæ 2·8.

Hab. Venezuela, Galipan alt. 8000 ft. (*Dyson*); New Grenada.

Mus. Brit.

Genus XXVII. DUBUSIA.

Dubusia, Bp. Compt. Rend. Ac. Sc. Par. xxxi. p. 424 (Sept. 1850).

Rostrum elongatum, incurvum, compressiusculum, dente finali distincto; gonyde recta: alæ modicæ, rotundatæ, remigibus quarta et quinta longissimis: cauda longissima et rotundata: ptilosis nigra, cærulea, et flava: sexus similes.

1. DUBUSIA TÆNIATA.

Tachyphonus tæniatus, Boiss. R. Z. 1840, p. 67; Bp. Consp.

p. 237.

Arremon tæniatus, Gray, Gen. App. p. 16.

Dubusia tæniata, Sclater, Tan. Cat. Sp. p. 10; P. Z. S. 1855,

p. 157.

Supra ex nigro-cærulescens: alis caudaque nigris, cærulescente limbatis: capite toto cum collo undique et gutture nigris, superciliis in collum utrinque elongatis et tectricibus alarum minoribus argenteo-cyaneis: abdomine flavo; pectore summo et crisso pallide ochraceis: tibiis nigricantibus: rostro et pedibus nigris.

Long. tota 7·3, alæ 3·7, caudæ 3·7.

Hab. New Grenada, Bogota.

Mus. Brit., Paris., &c.

2. DUBUSIA SELYSIA.

Tanagra selysia, Bp. Consp. p. 239.

Dubusia selysia, Bp. Compt. Rend. xxxii. p. 81.

Supra ex cinereo cærulescenti-viridescens: capite toto cum gutture nigris: fronte et superciliis latis et elongatis, collum posticum cingentibus, cum tectricibus alarum minoribus argenteo-cyaneis: remigum et reetricum marginibus cærulescentibus: abdomine flavo, pectore summo brunnescentiore, crisso ochracescentiore: rostro et pedibus nigris.

Long. tota 7·7, alæ 3·5, caudæ 3·4.

Hab. Vicinity of Quito, forests of the Andes (*Jameson*).

Mus. Lugdunensi, Joh. Gould et Gul. Jardine, Bart.

Genus XXVIII. COMPSOCOMA.

Compsocoma, Cab. Mus. Hein. p. 140 (1850).

Rostrum rectum, elongatum, subconicum, dente finali indistincto: alæ elongatæ, remigibus secunda, tertia et quarta fere æqualibus et longissimis: cauda longa, subrotundata; pedes validi: sexus similes: ptilosis nigra, cærulea et flava.

1. COMPSOCOMA VICTORINI.

Tachyphonus victorini, Lafr. R. Z. 1842, p. 336; Gray's Gen. p. 365.

Tanager victorini, Bp. Consp. p. 239.

Compsocoma victorini, Cab. Mus. Hein. p. 140.

Tachyphonus elegans, Less. Echo d. M. S. 1844; Descr. d. Mamm. et Ois. p. 349.

Tanager flavivertex, Lafr. MS.

Olivascenti-viridis: tectricibus alarum minoribus cæruleis: primariis et rectricibus thalassino marginatis: capite nigro, tænia lata verticali cum corpore subtus flavis.

Long. tota 7·0, alæ 3·8, caudæ 2·8.

Hab. New Grenada, Bogota.

Mus. Brit. et Paris.

2. COMPSOCOMA SUMPTUOSA.

Tachyphonus sumptuosus, Less. Tr. d'Orn. p. 463; Puch. Arch. Mus. Par. vii. p. 379. pl. 23.

Tanager somptuosa, Bp. Consp. p. 239.

Tachyphonus flavinucha, Tsch. F. P. p. 208.

Compsocoma elegans, Cab. Mus. Hein. p. 140.

Tanager chrysocome, Licht. in Mus. Berol.

Atra; dorso imo olivascente: humeris cæruleis: primariis et rectricibus thalassino marginatis: macula nuchali lata et corpore subtus flavis.

Long. tota 6·5, alæ 3·5, caudæ 2·8.

Hab. Ecuador, vicinity of Quito (*Jameson*); Peru (*Tschudi et Philippi* in *Mus. Berol.*); Venezuela (*Levrard*).

Mus. Brit., Paris., Berolinensi.

This bird has been confounded both with the preceding and with the next following species, but may be easily distinguished by its black back and olivascent uropygium.

3. COMPSOCOMA FLAVINUCHA.

Tachyphonus flavinucha, Lafr. et d'Orb. Mag. de Zool. 1837, p. 29; d'Orb. Voy. p. 280. pl. 21; Gray's Gen. p. 365.

Tanager flavinucha, Bp. Consp. p. 239.

Compsocoma flavinucha, Cab. Mus. Hein. p. 140.

Niger: humeris et dorso postico cum rectricum marginibus an-

gustis cæruleis : primariis externe thalassino marginatis : vitta nuchali media et corpore toto subtus flavis.

Long. tota 6·7, alæ 3·6, caudæ 2·8.

Hab. Bolivia, prov. Yungas (*d' Orb.*).

Mus. Parisiensi et Derbiano.

The blue on the rump at once distinguishes this Bolivian bird from its three congeners.

4. COMPSOCOMA NOTABILIS.

Tanagra notabilis, Jard. Edinb. N. Phil. Journ. n. s. ii. p. 119 ; Sclater, P. Z. S. 1855, p. 84. pl. 91.

Compsocoma notabilis, Sclater, *ib.*

Flavo-olivacea : capite undique et mento nigris : nucha triangulariter flava : alis nigris, cæruleo marginatis, tectricibus autem summis dorso concoloribus : cauda nigra, marginibus vix cærulescentibus : subtus aurantio-flava.

Long. tota 7·2, alæ 3·7, caudæ 3·0.

Hab. Ecuador, vicinity of Quito (*Jameson*).

Mus. Gul. Jardine, Britannico, Joh. Gould.

Since Sir William Jardine received his first examples of this beautiful species, which were transmitted by Professor Jameson from the Eastern Cordilleras near Quito, Mr. Gould has obtained other specimens from the same country. Some of these latter are now in the British Museum.

Genus XXIX. BUTHRAUPIS.

Buthraupis, Cab. Mus. Hein. p. 29 (1850).

Rostrum forte, subincurvum, breve, altum, compressiusculum, dente finali distincto : alæ longæ, remigibus tertia et quarta longissimis : cauda longa et paulum rotundata : pedes validi : tarsi longi : sexus similes : ptilosis cærulea, nigra et flava.

1. BUTHRAUPIS MONTANA.

Aglaia montana, Lafr. & d'Orb. Mag. de Zool. 1837, p. 32.

Tanagra montana, d'Orb. Voy. p. 275. pl. 23. fig. 1 ; Gray, Gen. p. 365 ; Bp. Consp. p. 239.

Buthraupis montana, Sclater, Tan. Cat. Sp. p. 10.

Supra cærulea ; cervice postica valde dilutiore, argentea : capite toto undique cum gutture atris : abdomine flavo.

Long. tota 9·0, alæ 5·0, caudæ 3·4.

Hab. Bolivia, prov. Yungas (*d' Orb.*).

Mus. Parisiensi, Britannico, Derbiano.

2. BUTHRAUPIS CUCULLATA.

Tanagra cucullata, Jard. Ill. Orn. n. s. pl. 43.

"*Tanagra montana*, d'Orb.," Less. Descr. d. Mamm. et Ois. p. 348.

Dubusia gigas, Bp. Rev. Zool. 1851, p. 171, & Note s. l. Tang.
p. 22.

Buthraupis cucullata, Sclater, P. Z. S. 1855, p. 157.

Supra læte cærulea: capite toto cum gutture atris: abdomine flavo.

Long. tota 8·2, alæ 5·2, caudæ 3·6.

Hab. New Grenada, Bogota; Ecuador, vic. of Quito (*Jameson*).

This is a common species in Bogota collections. In Gray's Genera and Prince Bonaparte's Conspectus it is erroneously united to *B. eximia*, from which it is quite distinct. Sir William Jardine possesses examples transmitted by Professor Jameson from the forests of the Andes near Quito, which are rather larger than Bogota skins, and have the bill stronger and are less black on the throat.

3. BUTHRAUPIS CHLORONOTA.

Buthraupis chloronota, Sclater, P. Z. S. 1854, p. 97. pl. 64; Tan.
Cat. Sp. p. 15.

Supra viridis: pileo cæruleo: alis caudaque nigris, illarum tectricibus minoribus cæruleis; majoribus et secundariis viridi limbatis: subtus flava, crisso saturatiore: gutture toto atro: rostro et pedibus nigris.

Long. tota 8·8, alæ 4·6, caudæ 3·8.

Hab. Ecuador, vic. of Quito (*Jameson*).

Mus. Gul. Jardine, Bart., et P. L. S.

4. BUTHRAUPIS EXIMIA.

Tanagra eximia, Boiss. Rev. Zool. 1840, p. 66; Gray's Gen.
p. 365; Bp. Consp. p. 239.

Tanagra (Saltator) eximia, Less. Descr. d. Mamm. et Ois. p. 346.

Buthraupis eximia, Cab. Mus. Hein. p. 29; Sclater, P. Z. S. 1855,
p. 157.

Supra viridis: pileo, tectricibus alarum minoribus et dorso postico cæruleis: capitis lateribus, gutture et cervice antica nigris: abdomine flavo.

Long. tota 7·2, alæ 4·6, caudæ 3·5.

Hab. New Grenada, Bogota.

Mus. Brit., Paris., &c.

Genus XXX. STEPHANOPHORUS.

Stephanophorus, Strickl. P. Z. S. 1841, p. 30.

Rostrum breve, altum, latum; mandibulis intumidis; culmine multum incurvo, gonyde ascendente; dente finali indistincto: alæ modicæ, rotundatæ, remigibus tertia quarta et quinta fere æqualibus, quarta paulo longissima: cauda longa, rotundata: ptilosis cærulescens: sexus similes.

1. STEPHANOPHORUS LEUCOCEPHALUS.

Lindo azul cabeza blanca, Azar. Pax. i. p. 375.

Tanagra leucocephala, Vieill. N. D. d'H. N. xxxii. p. 408; Enc. Méth. p. 774.

Tanagra diademata, Mikan, Fl. et F. Bras. pl. 4; Temm. Pl. Col. 243.

Pyrrhula cærulea, Vieill. Gal. Ois. p. 61. pl. 54.

Nemosia diademata, Steph. Zool. xiv. p. 5.

Stephanophorus cæruleus, Strickl. P. Z. S. 1841, p. 31; Gray, Gen. p. 365; Bp. Consp. p. 234.

Stephanophorus leucocephalus, Hartl. Ind. Az. p. 6.

Niger, sericeo-cærulescens: fronte loris et gutture cum alis caudaque nigris: alarum tectricibus cæruleis, remigibus et rectricibus cæruleo anguste limbatis: pileo postico albescenti-cæruleo: vertice mediali igneo-rubra: rostro et pedibus nigris.

Long. tota 7·0, alæ 4·0, caudæ 3·4.

Hab. South Brazil, S. Paolo (*Natt.*); Uruguay; Paraguay (*Azar.*).

Mus. Brit., Paris., Berol.

Genus XXXI. PÆCILOTHRAUPIS.

Pæcilothraupis, Cab. Mus. Hein. p. 30 (1850).

Anisognathus, Reich. Av. S. N. pl. 77 (1850).

Rostrum Tanagræ, sed rectius, brevius et basi dilatata, culmine minus incurvo: alæ longæ, remigibus tertia, quarta et quinta longissimis, secunda sextam æquante: cauda longa quadrata: sexus similes: ptilosis nigra, rubro aut flavo varia.

1. PÆCILOTHRAUPIS LUNULATA.

Tanagra lunulata, DuBus, Bull. Ac. Brux. vi. pt. 1. p. 439 (cum fig.) (1839); Esq. Orn. pl. 4; Bp. Consp. p. 239.

Tanagra (Euphone?) constantii, Boiss. R. Z. 1840, p. 3.

Aglaia erythrotis, Jard. & Selby, Ill. Orn. n. s. pl. 36 (1840).

Tanagra erythrotis, Less. Echo d. M. S. 1843, p. 947.

Tanagra igniventris, Tsch. Wieg. Arch. 1844, p. 287; F. P. p. 203?

Tachyphonus lunulatus, Gray's Gen. p. 365. sp. 18.

Pæcilothraupis igniventris, Cab. Mus. Hein. p. 30.

Niger: uropygio et alarum tectricibus minoribus cæruleis: macula auriculari magna et abdomine rubris, crisso nigro, interdum rubro variegato.

Long. tota 7·0, alæ 3·8, caudæ 3·4.

Hab. New Grenada, Bogota; Ecuador, elevated region of the Andes near Quito (*Jameson*); Peru, Cordilleras, alt. 10,000 feet (*Tsch.*).

Mus. Brit., Paris., &c.

This species appears certainly distinct from d'Orbigny's *P. igniventris*, with which it is sometimes united. In that bird there are

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blue edgings to the wings and tail, and the crissum is wholly red. In the present species the crissum is sometimes partly red, but I have never observed any traces of blue markings on the wings or tail.

2. PÆCILOTHRAUPIS IGNIVENTRIS.

Aglaiia igniventris, d'Orb. & Lafr. Syn. Av. in Mag. de Zool. 1837, p. 32.

Tanagra igniventris, d'Orb. Voy. p. 275. pl. 25. fig. 2; Bp. Consp. p. 239 (partim).

Anisognathus igniventris, Selater, Tan. Cat. Sp. p. 11.

Supra cærulescenti-ardesiacus: capite colloque nigris: uropygio cæruleo: alis nigris; tectricibus alarum minoribus et tectricum majorum necnon remigum reetricumque marginibus cæruleis: macula magna auriculari utrinque et ventre toto cum crisso ruberrimis.

Long. tota 6·5, alæ 3·3, caudæ 2·8.

Hab. Bolivia, prov. Apolobamba (d'Orb.).

Mus. Brit., Bremensi, Derbiano.

3. PÆCILOTHRAUPIS LACRIMOSA.

Tachyphonus lacrimosus, DuBus, Esq. Orn. pl. 10; Gray's Gen. App. p. 17; Bp. Consp. p. 237.

Tanagra palpebrosa, Lafr. R. Z. 1847, p. 71; Gray's Gen. App. p. 16; Bp. Consp. p. 239.

Anisognathus lacrimosus, Selater, Tan. Cat. Sp. p. 11.

Ardesiaco-niger: uropygio, tectricibus alarum minoribus et tectricum majorum necnon remigum reetricumque marginibus cæruleis: macula magna auriculari et parva suboculari utrinque cum corpore toto subtus aurantiis.

Long. tota 6·8, alæ 3·5, caudæ 3·0.

Hab. New Grenada, Pasto (Lafr.); Bogota (*Mus. Brit.*); Eastern Peru (DuBus).

Mus. Brit., Derbiano, Bruxell.

Genus XXXII. IRIDORNIS.

Iridosornis, Less. Echo d. M. S. 1844, p. 80.

Pæcilornis, Hartl. R. Z. 1844, p. 369.

Euthraupis, Cab. Mus. Hein. p. 30 (1850).

Rostrum subrectum, maxime compressum, culmine incurvo, gonyde ascendente, dente finali distincto: alæ modicæ; remigibus tertia, quarta et quinta longissimis, sexta his paulo brevior et secundam superante: cauda longiuscula, reetricibus acutis: ptilosis nitens, nigra, purpurea, flava: sexus similes.

1. IRIDORNIS DUBUSIA.

Arremon rufivertex, Lafr. R. Z. 1842, p. 335 (err.); Gray, Gen. p. 361. sp. 3.

Iridosornis rufivertex, Less. Echo d. M. S. 1844, p. 80; R. Z. 1844, p. 431; Descr. d. Mamm. et Ois. p. 350.

Pœcilornis rufivertex, Hartl. R. Z. 1844, p. 369.

Tanagra dubusia, Bp. Consp. p. 239.

Euthraupis dubusia, Cab. Mus. Hein. p. 30.

"*Tanagra chrysolopha*, auct.," Bp. R. Z. 1851, p. 131; Note s. l. Tang. p. 6.

Iridosornis dubusia, Strickl. Cont. Orn. 1852, p. 127. pl. 94.

Iridornis dubusia, Sclater, P. Z. S. 1855, p. 157.

Nigra; dorso toto cum tectricibus alarum minoribus et pectore purpureis; abdomine sensim obscuriore: ventre imo et crisso castaneis: pileo medio nuchaque cristatis, aurantiis: alis caudaque extus purpurascens marginatis: mandibula inferiore albicante, superiore cum pedibus nigris.

Long. tota 5·5, alæ 3·0, caudæ 2·6.

Hab. New Grenada, Bogota.

Mus. Brit., &c.

2. IRIDORNIS ANALIS.

Tanagra analis, Tsch. in Wiegmann Arch. 1844, p. 286; F. P. p. 205. pl. 18. fig. 1; Gray, Gen. App. p. 16; Lafr. R. Z. 1847, p. 71 (?).

Calliste analis, Bp. Consp. p. 236. sp. 42.

Euthraupis analis, Cab. Mus. Hein. p. 30 (note).

Supra ex cinereo-viridescens, alis caudaque nigris viridescens limbatis: fronte et capitis lateribus nigris: pileo plumbeo: subtus ochracea, mento summo nigro, gutture toto aureo: crisso castaneo: rostro albicante, culmine nigro.

Long. tota 6·0, alæ 3·3, caudæ 2·5.

Hab. Western Peru, fruit gardens of Lima (Tsch.).

Mus. Bremensi.

This species and the next following are certainly not very typical *Iridornithes*, but without creating a new generic appellation for them, I hardly know at present where to place them more satisfactorily.

3. IRIDORNIS PORPHYROCEPHALA.

"*Tanagra analis*, Tsch.," Licht. in Mus. Berol.

Iridornis porphyrocephala, Sclater, P. Z. S. 1855, p. 227. pl. cx.

Supra purpurea, dorso imo et alarum caudæque marginibus viridescens: fronte, loris, mento summo et regione auriculari nigris: gutture late et læte aureo-flavo: pectore summo purpurascens; ventre viridescens, medialiter rufescenti-ochraceo: ano intense ferruginescenti-castaneo: tectricibus alarum inferioribus viridescens: rostro superiore nigro, inferiore albo.

Long. tota 5·6, alæ 3·0, caudæ 2·2.

Hab. New Grenada; Ecuador, vic. of Quito.

Mus. Berol. et Joh. Gould.

This bird may be distinguished from the preceding species by its purple head and upper back, and the greenish tinge of the lower plumage.

Genus XXXIII. CALLISTE.

- Calliste*, Boie, Isis, 1826, p. 978.
*Aglai*a, Sw. Zool. Journ. iii. p. 347 (1827).
Calospiza, G. R. Gray, List of Gen. 1840.
Tatao, Bp. Compt. Rend. xxxii. p. 80 (1851).
Chrysothraupis, Bp. R. Z. 1851, p. 142.
*Ixo*thraupis, Bp. R. Z. 1851, p. 143.
Gyrola, Rchb. Av. S. N. pl. 77 (1850).
Euschemon, Selater, Cont. Orn. 1851, p. 95.
Euprepiste, Selater, Cont. Orn. 1851, p. 95.
Procnopis, Cab. Wieg. Arch. 1844, p. 284.
Chalcothraupis, Bp. R. Z. 1851, p. 144.

Rostrum rectum, breve, tenue, compressiusculum, culmine incurvo, gonyde paulum ascendente, dente finali distincto : alæ elongatiores, remigibus secunda, tertia et quarta longissimis, prima brevior : cauda modica, quadrata : pedes plerumque debiles : ptilosis nitidissima : sexus adulti plerumque similes : juniores colore obscuriores.

a. *Tatao*.

1. CALLISTE TATAO.

- Tangara du Brésil*, Buff. Pl. Enl. 127. fig. 1.
Tangara, Buff. Pl. Enl. 7. fig. 1 (fig. pess.); Briss. Orn. iii. p. 3.
Le Septicolor, Buff. H. N. iv. 278.
Tanagra tatao, Linn. S. N. i. 315; Kittl. Kùpf. d. Vög. pl. 31. fig. 3; Vieill. Enc. Méth. p. 778; Hayes, Osterly Park, p. 32; d'Orb. Voy. p. 270?
*Aglai*a *tatao*, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 32?
*Aglai*a *paradisea*, Sw. Class. Birds, ii. p. 286.
Callispiza tatao, Schomb. Reise, iii. p. 669; Cab. Mus. Hein. p. 26.
Tatao paradisea, Bp. Note s. l. Tang. p. 15; Rev. Zool. 1851, p. 141.
Calliste tatao, Gray, Gen. B. p. 366. sp. 13; Bp. Consp. p. 234. sp. 13; Selater, Jard. Cont. Orn. 1851, p. 50.
Tangara septicolor, Desm. Tan. pl. 1.
The Paradise Tanager, Lath. G. H. vi. p. 27.
Titmouse of Paradise, Edwards, Glean. t. 349.
Supra velutino-atra : dorsi postici parte superiore coccinea, inferiore aurea : pilei summi et capitis laterum pennis coarctatis et squamatis, colore lætissime viridibus : fronte et oculorum ambitu anguste nigris : tectricibus alarum summis et corpore subtus splendide cæruleis ; gutture et pectore summo cum tectrici-

bus alarum mediis et marginibus remigum externarum purpureis : ventre medio crissoque atris.

♀. *Mari similis, sed coloribus minus vividis ; dorso postico omnino aureo.*

Long. tota 4·7, alæ 2·7, caudæ 2·0.

Hab. Cayenne ; Brit. Guiana (*Schomb.*) ; Upper Rio Negro (*Wallace*).

Mus. Brit., &c.

2. CALLISTE CÆLICOLOR.

Calliste cælicolor, *Sclater*, *Cont. Orn.* 1851, p. 51 ; *P. Z. S.* 1855, p. 157.

Supra velutino-atra : dorsi postici parte superiore coccinea, inferiore aurea : pilei usque ad nucham et cupitis laterum pennis coarctatis et squamatis, colore lætissime viridibus : fronte angustissima et oculorum ambitu nigris : tectricibus alarum summis et corpore subtus splendide cæruleis : gutture cum tectricum alarum mediarum et remigum externarum marginibus purpureis : ventre medio et crisso atris.

♀. *Mari similis, sed coloribus obscurioribus et dorso postico omnino flavo.*

Long. tota 5·0, alæ 3·1, caudæ 2·1.

Hab. New Grenada, Bogota.

Mus. Brit.

3. CALLISTE YENI.

Aglaiia chilensis, *Vig.* *P. Z. S.* 1832, p. 3 ; *Jard. & Selb. Ill. Orn.* n. s. pl. 25.

Aglaiia yeni, *Lafr. & d'Orb. Syn. Av. in Mag. de Zool.* 1837, p. 31.

Tanagra yeni, *d'Orb. Voy.* p. 270. pl. 24. fig. 2.

Callospiza yeni, *Tsch. Wieg. Arch.* 1844, p. 286 ; *Tsch. F. P.* p. 201.

Calliste chilensis, *Gray, Gen.* p. 366. sp. 14.

Calliste yeni, *Bp. Consp.* p. 234 ; *Sclater, Cont. Orn.* 1851, p. 51.

Tatao yeni, *Bp. R. Z.* 1851, p. 141 ; *Note s. l. Tang.* p. 15.

Supra velutino-atra : dorso postico toto ruberrimo : pilei et capitatis laterum pennis coarctatis et squamatis, colore lætissime viridibus : oculorum ambitu anguste nigro : tectricibus alarum summis et corpore subtus splendide cæruleis ; gutture et tectricum alarum mediarum et remigum externarum marginibus purpureis : ventre medio et crisso nigris.

Long. tota 5·2, alæ 2·9, caudæ 2·2.

Hab. Bolivia, Yuracares and Yungas (*d'Orb.*) ; Eastern Peru (*Tsch.*) ; River Ucayali (*Hawxwell*).

Mus. Brit., &c.

b. *Calliste*.

4. CALLISTE TRICOLOR.

Tang. cayanensis varia chlorocephalos, Briss. Orn. vi. App. p. 59.

Tang. varié à tête verte, Buff. Pl. Enl. 32. fig. 1 (♂).

Le Tricolor, Buff. H. N. iv. 276 (partim).

Tanagra tricolor, Gm. S. N. i. 891; Vieill. Enc. Méth. p. 779; Temm. Pl. Col. 215. fig. 1 (♀).

Tanagra tatao, Max. Beitr. iii. 459.

Calliste tricolor, Gray, Gen. p. 366. sp. 1; Bp. Consp. p. 234; Sclater, Cont. Orn. 1851, p. 51.

Callispiza tricolor, Cab. Mus. Hein. p. 26.

Tatao tricolor, Bp. R. Z. 1851, p. 141; Note s. l. Tang. p. 16.

Tatao tricolor mâle, Desm. Tan. pl. 3.

Green-headed Tanager, Lath. G. H. vi. p. 24.

Læte viridis: rostri ambitu et collo antico interscapulioque nigris: capite undique et vitta gulam summam transeunte læte cærulescenti-viridibus: pectore cæruleo: dorsi postici parte superiore flammea: tectricibus alarum superioribus purpureis: rostro et pedibus nigris.

♀. *Mari similis, sed coloribus omnibus obscurioribus; dorso postico flavo.*

Long. tota 5·2, alæ 2·7, caudæ 2·1.

Hab. South-eastern Brazil (*P. Max.*).

Mus. Brit., &c.

5. CALLISTE FASTUOSA.

Tanagra fastuosa, Less. Cent. Zool. pl. 58. p. 184.

Calliste fastuosa, Gray, Gen. p. 366. sp. 20; Bp. Consp. p. 235; Sclater, Cont. Orn. 1851, p. 52.

Tatao fastuosus, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 16.

Fronte, mento, gutture medio et interscapulio velutino-nigris: dorso postico aurantiaco: capite et cervice tota cum vitta gulam transeunte lætissime cæruleo-viridibus: alis caudaque nigris, purpureo marginatis: tectricibus alarum minoribus lætissime cæruleis: secundariorum trium ultimarum marginibus externis pallide aureis: abdomine toto purpureo, pectore lilacescente.

♀. *Mari similis, sed coloribus obscurioribus.*

Long. tota 5·5, alæ 2·8, caudæ 2·0.

Hab. Eastern Brazil, Pernambuco.

Mus. Brit., Paris., &c.

6. CALLISTE FESTIVA.

Tang. cayanensis varia cyanocephalos, Briss. Orn. vi. App. p. 62.

Tang. à tête bleue de Cayenne, Buff. Pl. Enl. 33. fig. 2 (♂).

Le Tricolor, Buff. H. N. iv. p. 276 (partim).

Tanagra tricolor, var. β, Gm. S. N. 892; Don. Nat. Rep. pl. 23.

Tanagra festiva, Shaw, Nat. Misc. pl. 537.

Tanagra cyanocephala, Vieill. N. D. d'H. N. xxxii. p. 425; Enc. Méth. p. 780; Temm. Pl. Col. 215. fig. 2 (♀).

Tanagra trichroa, Licht. Verz. d. Doubl. p. 30; Kittl. Kūpf. d. Vög. pl. 31. fig. 1.

"*Tanagra rubricollis*, Temm.," Max. Beitr. iii. 456.

Agelaius cyanocephala, Sw. Orn. Dr. pl. 5.

Calliste festiva, Gray, Gen. p. 366. sp. 2; Bp. Consp. p. 234; Sclater, Cont. Orn. 1851, p. 51.

Callispiza festiva, Cab. Mus. Hein. p. 26.

Tatao festiva, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 16.

Tangara tricolor femelle, Desm. Tan. pl. 4.

Green-headed Tanager, var. *A*, Lath. G. H. vi. p. 25.

Læte viridis: rostri ambitu et interscapulio nigris: pileo toto nuchaque cum gutture cæruleis: oculorum ambitu et pilei cærulei margine antica thalassinis: regione auriculari cum collo laterali et postico late rubris: alis caudaque nigris viridi limbatis; tectricibus alarum minoribus nigris aurantio terminatis: alis caudaque nigris.

♀. *Mari similis*, sed coloribus dilutioribus; dorso viridi nigro variegato.

Long. tota 5·0, alæ 2·5, caudæ 1·9.

Hab. South-eastern Brazil (*P. Max.*).

Mus. Brit.

7. CALLISTE CYANEIVENTRIS.

Tanagra cyanoventris, Vieill. N. D. d'H. N. xxxii. p. 426; Enc. Méth. p. 781.

Tanagra elegans, Max. Reise n. Bras. i. p. 187.

Tanagra citrinella, Temm. Pl. Col. 42. fig. 2; Max. Beitr. iii. p. 464.

Agelaius citrinella, Sw. Orn. Dr. pl. 6.

Calliste citrinella, Gray, Gen. p. 366. sp. 3; Bp. Consp. p. 234.

Callispiza citrinella, Cab. Mus. Hein. p. 26.

Chrysothraupis citrinella, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 17.

Calliste cyanoventris, Sclater, Cont. Orn. 1851, p. 54.

Supra aureo-flava; dorso superiore et medio nigro variegatis: alis caudaque nigris viridi limbatis: infra nitide cyanea, mento summo et collo antico nigris: vitta gulam summam transeunte aurea, capite concolore: ventre medio crissoque ochraceo flavis viridi perfusis: rostro nigro: pedibus fuscis.

♀. *Mari similis*, sed coloribus dilutioribus.

Long. tota 5·25, alæ 2·7, caudæ 2·1.

Hab. South-eastern Brazil (*Temm.*).

Mus. Brit.

8. CALLISTE THORACICA.

Tanagra thoracica, Temm. Pl. Col. 42. fig. 1.

Calliste thoracica, Gray, Gen. p. 366. sp. 4; Bp. Consp. p. 234; Sclater, Cont. Orn. 1851, p. 54.

Callispiza thoracica, Cab. Mus. Hein. p. 26.

Chrysothraupis thoracica, Bp. R. Z. 1851, p. 142; Note s. 1. Tang. p. 17.

Supra nitide viridis nigro variegata: fronte nigra: regione oculari et vitta pileum anticum transeunte thalassino-cyaneis: gutture et pectore toto aurantio-flavis, plaga in gutture medio cum mento summo nigris: alis caudaque nigris viridi limbatis; tectricibus alarum summis nigris aurantio terminatis: abdomine nitide viridi, hypochondriis cyaneo tinctis: ventre medio et crisso flavicantibus.

♀. *Mari similis, sed coloribus dilutioribus.*

Long. tota 5·5, alæ 2·8, caudæ 2·4.

Hab. South-eastern Brazil (*Natt.*).

Mus. Brit., Paris., &c.

9. CALLISTE SCHRANKI.

Tanagra schrankii, Spix, Av. Bras. ii. p. 38. pl. 51 (♂) et (♀); d'Orb. Voy. p. 270. pl. 24. fig. 1.

Aglaiia schrankii, Lafr. & d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 31; Bp. P. Z. S. 1837, p. 122.

Aglaiia melanotis, Sw. An. in Men. p. 355 (♀).

Calliste schrankii, Gray, Gen. p. 366. sp. 17; Bp. Consp. p. 235. sp. 18; Sclater, Cont. Orn. 1851, p. 54; P. Z. S. 1854, p. 115.

Callospiza schrankii, Tsch. Wieg. Arch. 1844, p. 286, et F. P. p. 201.

Chrysothraupis schrankii, Bp. R. Z. 1851, p. 143; Note s. 1. Tang. p. 17.

Læte viridis: interscapulii et secundariarum ultimarum pennis nigris, viridi marginatis: alis caudaque nigris cærulescenti-viridi limbatis: fronte lata et capitis lateribus nigris: pileo postico aureo: dorso imo cum pectore et ventre summo mediallyter flavis: rostro et pedibus nigris.

♀. *Mari similis, sed coloribus minus vividis: capite viridi: uropygio flavicante.*

Long. tota 4·6, alæ 2·7, caudæ 1·7.

Hab. East Peru (*Tsch. & Hawxwell*); prov. Maynas (*Pöppig*); Ecuador, prov. Quixos; Bolivia, Yuracares (*d'Orb.*).

Mus. Brit., Paris.

c. *Ixothraupis*.

10. CALLISTE PUNCTATA.

Tangara viridis indica punctata, Briss. Orn. iii. 19.

Tang. verd tacheté des Indes, Buff. Pl. Enl. 133. fig. 1.

Le Syacou, Buff. H. N. iv. p. 288.

Tanagra punctata, Linn. S. N. i. 316.

Calliste punctata, Gray, Gen. p. 366. sp. 12; Bp. Consp. p. 234. sp. 8; Sclater, Cont. Orn. 1851, p. 55.

Callispiza punctata, Cab. Mus. Hein. p. 26.

Icthyraupis punctata, Bp. R. Z. 1851, p. 143; Note s.l. Tang. p. 18.

Spotted Green Titmouse, Edwards, Glean. vi. pl. 262.

Tangara syacou, Desm. Tan. pl. 8 et 9.

Supra late viridis: capitis et dorso superioris pennis medialiter nigris viridi marginatis: alis caudaque nigris viridi limbatis: loris nigris: fronte angusta et ciliis oculorum albescens: subtus alba, viridi tincta et nigro guttata, lateraliter paulum flavescens: ventre medio albo: hypochondriis viridibus: crisso flavicante: rostro et pedibus nigris.

♀. *Minor et obscurior: guttis corporis inferi pæne obsoletis.*

Long. tota 4·6, alæ 2·5, caudæ 1·6.

Hab. Cayenne (*Buff.*).

Mus. Brit.

11. CALLISTE GUTTATA.

Spotted Emerald Tanager, Lath. G. H. vi. 19.

Callospiza punctata, Cab. in Schomb. Reise, iii. p. 669.

Callispiza guttata, Cab. Mus. Hein. p. 26.

Calliste guttulata, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 76; Sclater, P. Z. S. 1855, p. 157.

Calliste chrysochrys, Sclater, Cont. Orn. 1851, p. 24. pl. 69. fig. 2, et p. 54.

Icthyraupis guttulata, Bp. R. Z. 1851, p. 144; Note s.l. Tang. p. 18.

Supra aurescenti-viridis: capitis totius et dorsi superioris pennis medialiter nigris, viridi marginatis: fronte et regione oculari aureis: alis caudaque nigris, hac viridi, illis autem cærulescenti-viridi latius marginatis: loris nigris: subtus alba, cærulescente tincta et guttis rotundis præcipue in pectore diffusa: his maculis in gula minoribus: ventre medio albescente: lateribus et crisso flavo-virescentibus: rostro et pedibus nigris.

♀. *Paulo minor et coloribus minus claris.*

Hab. British Guiana (*Schomb.*); Venezuela; Trinidad; New Grenada, Bogota; Ecuador (*Bourcier*).

12. CALLISTE XANTHOGASTRA.

Calliste xanthogastra, Sclater, Cont. Orn. 1851, p. 23 & 55; P. Z. S. 1854, p. 115, et 1855, p. 157.

Icthyraupis chrysoaster, Bp. Rev. Zool. 1851, p. 144; Note s. l. Tang. p. 18.

Late viridis: capitis et corporis inferi ad medium pectus pennis medialiter nigris, viridi late circumcinctis: interscapulii, alarum et caudæ plumis nigris, cærulescenti-viridi late marginatis: ventre medio flavo: lateribus viridibus: tectricibus subalaribus albis: rostro et pedibus nigris.

Long. tota 4·2, alæ 2·5, caudæ 1·5.

Hab. New Grenada, Bogota; Eastern Peru; Ecuador, prov. Quixos.

13. CALLISTE GRAMINEA.

Tang. tacheté de Cayenne, Buff. Pl. Enl. 301. fig. 1.

Le Syacou, Buff. H. N. iv. p. 288 (partim).

Tangara petit Syacou, Less. Trait. d'Orn. p. 462.

Tanagra graminea, Spix, Av. Bras. ii. p. 40. pl. 53. fig. 2 (♀).

Calliste virescens, Sclater, Cont. Orn. 1851, p. 22. pl. 69. fig. 1, et p. 56.

Ixothraupis pusilla, Bp. Rev. Zool. 1851, p. 144; Note s. l. Tang. p. 18.

Calliste graminea, Sclater, Tan. Cat. Sp. p. 11. sp. 17.

Viridis: alis caudaque nigris; harum marginibus externis cum interscapulio toto cærulescentibus: ventre medio vix flavescente.

♀. *Viridis fere unicolor: alis caudaque fusco-nigris, viridi limbatis; ventre flavescente.*

Long. tota 3·9, alæ 2·3, caudæ 1·5.

Hab. Cayenne; Lower Amazon.

Mus. Brit., Bruxell.

14. CALLISTE RUFIGULARIS.

Tanagrella rufigula, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 77; Rev. Zool. 1851, p. 130; Note s. l. Tang. p. 4.

Calliste rufigula, Sclater, Cont. Orn. 1851, p. 55.

Supra niger: interscapulii, alarum et caudæ pennis anguste viridi marginatis: dorso imo pure pallido viridi: subtus virescenti-albida: pectoris et laterum pennis nigro guttatis; gula cuprescenti-rufa: abdomine medio albido; crisso ochracecente: tectricibus subalaribus albis: rostro nigro, basi plumbescenti-albida: pedibus nigris.

Long. tota 4·5, alæ 2·7, caudæ 1·7.

Hab. Ecuador, vic. of Quito (*Bourcier*) (*Jameson*).

Mus. Paris.

d. *Chrysothraupis*.

15. CALLISTE AURULENTA.

T. (Aglaiia) aurulenta, Lafr. R. Z. 1843, p. 290, et 1854, p. 207.

Calliste aurulenta, Gray's Gen. App. p. 17; Bp. Consp. p. 235; Sclater, Cont. Orn. 1851, p. 52 (partim); P. Z. S. 1855, p. 157.

Chrysothraupis aurulenta, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 16.

Aurea, pileo aurantio tincto: interscapulio nigro variegato: lorix et regione auriculari nigerrimis: alis caudaque nigris: alarum tectricibus omnibus et secundariis viridescenti-aureo limbatis; reetricum marginibus externis eodem colore vix tinctis: subtus aureo-flava: rostro et pedibus nigris.

Long. tota 5·0, alæ 2·8, caudæ 1·9.

Hab. New Grenada, Bogota.

Mus. Brit.

16. CALLISTE SCLATERI.

Calliste aurulenta, Sclater, Cont. Orn. 1851, p. 52.

Calliste sclateri, Lafr. Rev. Zool. 1854, p. 207; Sclater, P. Z. S. 1855, p. 157.

Supra latissime aurea, regione oculari citrino-flava: loris et regione auriculari nigerrimis: dorso nigro variegato: alis caudaque nigris: alarum tectricibus omnibus et secundariis viridescenti-aureo limbatis: rectricum mediarum marginibus externis eodem colore vix tinctis: subtus saturate brunnescenti-aurea: rostro et pedibus nigris.

Long. tota 5·5, alæ 3·1, caudæ 2·1.

Hab. New Grenada, Bogota.

Mus. Lafresnayano.

17. CALLISTE PULCHRA.

Calospiza pulchra, Tsch. Av. Consp. in Wiegmann Arch. 1844, p. 285; F. P. p. 200. pl. 18. fig. 2; Gray, Gen. App. p. 17; Bp. Consp. p. 235. sp. 32; Lafr. R. Z. 1854, p. 206.

Aureo-flava: interscapulio limonaceo-flavo et nigro variegato: fronte angusta, mento summo, loris et regione auriculari cum alis caudaque nigerrimis: alarum tectricibus et secundariis viridescenti-aureo anguste limbatis: gutture et cervice antica castaneo-aureis: rostro et pedibus nigris.

Long. tota 5·75, alæ 3·3, caudæ 2·4.

Hab. Eastern wood-region of Peru (Tsch.); Quixos in Ecuador.

Mus. Neuchatel et Joh. Gould.

This bird may be distinguished from the two preceding by its larger size and chestnut throat.

18. CALLISTE ARTHUSI.

Tanagra arthus, Less. Ill. Zool. pl. 9; Gray, Gen. p. 21.

Calliste arthusi, Bp. Consp. p. 235. sp. 36; Sclater, Cont. Orn. 1851, p. 53.

Chrysothraupis arthus, Bp. R. Z. 1851, p. 442; Note s. l. Tang. p. 16.

Supra latissime aurea, rostri ambitu et regione auriculari nigris: interscapulio nigro variegato: alarum tectricibus et secundariis nigris virescenti-aureo limbatis: subtus castanea, gutture aureo: ventre medio pallide flavo.

Long. tota 5·7, alæ 3·0, caudæ 2·3.

Hab. Venezuela; Cariaco (Dyson), Caraccas (Levraud).

Mus. Brit., Parisiensis.

19. CALLISTE ICTEROCEPHALA.

Calliste icterocephala, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 76; Sclater, Cont. Orn. 1851, p. 53. pl. 70. fig. 1.

Chrysothraupis icterocephala, Bp. Note s. l. Tang. p. 17; R. Z. 1851, p. 445.

Flava: interscapulio et tectricibus alarum summis nigro variegatis:

alis caudaque nigris aurescenti-viridi limbatis: gutture et torque cervicali undique pallide virescenti-argenteis.

Long. tota 5·0, alæ 2·8, caudæ 1·9.

Hab. Ecuador, valley of Punta playa (*Bourcier*).

Mus. Parisiensi.

e. *Euschemon*.

20. CALLISTE VITRIOLINA.

Callispiza vitriolina, Cab. Mus. Hein. p. 28.

Calliste ruficapilla, Sclater, Cont. Orn. 1851, p. 61; P. Z. S. 1855, p. 158.

Calliste vitriolina, Bp. R. Z. 1851, p. 159; Note s. l. Tang. p. 13.

Ex griseo nitenti-viridescens: pileo rufo: capitis lateribus nigris: alis caudaque nigris cærulescenti-viridi limbatis: subtus dilutior, ventre albidiore: crisso pallide rufescente.

♀. *Mari similis, sed coloribus dilutioribus et marginibus alarum viridescens.*

Long. tota 5·3, alæ 3·0, caudæ 2·2.

Hab. New Grenada, Bogota.

Mus. Brit., &c.

21. CALLISTE CAYANA.

Tang. cayanensis viridis, Briss. Orn. iii. 21.

Tanagra cayana, Linn. S. N. i. 315; Vieill. Enc. Méth. p. 777.

Fringilla autumnalis, Linn. S. N. i. p. 320?

Calliste cayana, Gray, Gen. p. 366. sp.; Bp. Consp. p. 234. sp. 1; R. Z. 1851, p. 140; Note s. l. Tang. p. 14.

Calospiza cayana, Schomb. Reise, iii. p. 670.

Callispiza cayana, Cab. Mus. Hein. p. 27.

Calliste chrysonota, Sclater, Cont. Orn. 1850, p. 50. pl. 51, et 1851, p. 62.

Moineau à tête rousse de Cayenne, Buff. Pl. Enl. 201. fig. 2 (*fig. pess.*).

Tang. à tête rousse de Cayenne, Buff. Pl. Enl. 290. fig. 1.

Le Passevert, Buff. H. N. iv. 273; Desm. Tan. pl. 10, 11.

The rufous-headed Tanager, Lath. G. H. vi. p. 30.

Flavescenti-ochracea: pileo cuprescenti-rufo: capitis lateribus nigris: alis nigris cærulescenti-viridi limbatis: gutture toto cærulescenti-nigro perfuso.

♀. *Obscurior: marginibus alarum et caudæ viridescens.*

Long. tota 4·8, alæ 2·7, caudæ 1·5.

Hab. Cayenne.

Mus. Brit.

22. CALLISTE CYANOLEMA.

Calliste cyanolaima, Bp. Note s. l. Tang. p. 14; R. Z. 1851, p. 140.

Calliste cyanolæma, Sclater, Tan. Cat. Sp. p. 12. sp. 21.

Nitentissime flavescenti-ochracea: pileo cuprescenti-rufo: capitis

*lateribus nigris · alis caudaque nigris viridescenti-cæruleo lim-
batis : gutture toto cyaneo relucente.*

♀. *Obscurior : marginibus alarum et caudæ viridescens.*

Long. tota 5·5, alæ 2·8, caudæ 2·1.

Hab. Interior of Venezuela, Rio Negro ; Trinidad (?).

Mus. P. L. S.

Obs. Vix a *Calliste cayana* distincta, et crassitie paulo majore et coloribus clarioribus solum dignoscenda.

23. CALLISTE CUCULLATA.

Aglaia cucullata, Sw. Orn. Dr. pl. 7.

Calliste cucullata, Gray's Gen. p. 366. sp. 9 ; Bp. Consp. p. 234 ;
Sclater, Cont. Orn. 1851, p. 63 ; Bp. R. Z. 1851, p. 14 ; Note s. l.
Tang. p. 14.

*Supra flavescenti-ochracea, viridescente tincta : pileo nigro-cinna-
momeo : infra rufescentior ; pectore cærulescente : alis caudaque
nigris viridi limbatis : rostro validiore.*

Long. tota 5·0, alæ 2·9.

Hab. Venezuela, Angostura.

Mus. Parisiensi, Stricklandico.

This is a scarce bird in collections, but I have no doubt about its being a good species. It is distinguishable from all its affines by its peculiar dark cinnamon-coloured head.

24. CALLISTE FLAVA.

Tang. brasiliensis flava, Briss. Orn. iii. 39.

Tanagra flava, Gm. i. p. 896 ; Lath. Ind. Orn. i. p. 431 ; Max.
Beitr. iii. 467.

Lindo bello, Azara, Pax. i. p. 387.

Tanagra formosa, Vieill. N. D. d'H. N. xxxii. p. 407 ; Enc. Méth.
p. 773.

Tanagra chloroptera, Vieill. N. D. d'H. N. xxxii. p. 407.

Aglaia flava, Sw. Zool. Ill. n. s. pl. .

Calliste flava, Gray, Gen. p. 366. sp. 15 ; Bp. Consp. p. 234 ;
Sclater, Cont. Orn. 1851, p. 61 ; Bp. R. Z. 1851, p. 140 ; Note s.
l. Tang. p. 14.

Callispiza flavà, Cab. Mus. Hein. p. 27.

Yellow Tanager, Lath. G. H. p. 22.

*Clare ochraceo-flava : alis caudaque nigris cærulescenti-viridi lim-
batis : corpore subtus a mento ad ventrem medialiter nigro.*

♀. *Ochraceo-flava, obscurior : dorso viridescente tincto : alis cau-
dæ nigris viridi limbatis : gutture et pectore mediali albidis
nigricante mixtis.*

Long. tota 5·8, alæ 2·9, caudæ 2·0.

Hab. South-eastern Brazil (*Max.*) ; Pernambuco (*Sw.*) ; Para-
guay (*Azara*).

Mus. Brit., &c.

25. CALLISTE PRETIOSA.

Lindo precioso, Azara, Pax. i. p. 381.

Aglaiä cayana, d'Orb. et Lafr. Syn. Av. in Mag. de Zool. 1837, p. 32?

Tanagra cayana, d'Orb. Voy. p. 272?

Calliste cayana, Hartl. Ind. Az. p. 6.

Tanagra gyrola, Max. Beitr. iii. 471 (partim); DuBois, Orn. Gal. pl. 87 (♂).

Callispiza preciosa, Cab. Mus. Hein. p. 27.

Calliste castanonota, Sclater, Cont. Orn. 1851, p. 63.

Calliste pretiosa, Bp. R. Z. 1851, p. 159; Note s. l. Tang. p. 14.

Nitenti-flavescenti-ochracea: capite toto cum cervice postica et dorso summo cuprescenti-rufis: remigibus reatricibusque nigris, cæruleo limbatis: loris nigris: subtus viridescens, abdomine medio cærulescente, ventre imo, crisso et tibiis pallide rufis.

♀. *Viridescens, plumarum marginibus obscurioribus: alis caudaque nigris viridi limbatis: pileo cuprescente: subtus dilutior, crisso rufescente.*

Long. tota 6·3, alæ 3·3, caudæ 2·3.

Hab. Southern Brazil, Rio Grande do Sul (*Plant*); Paraguay (*Azara*); Monte Video (*Selloe*); Curytiba (*Natt.*); Corrientes (*d'Orb.*).

Mus. Derbiano, Heineano, Bruxell., Vindob., Berol.

26. CALLISTE MELANONOTA.

Tanagra peruviana, Desm. Tan. pl. 11 (♂); Vieill. Enc. Méth. p. 778.

Tanagra gyrola, Max. Beitr. iii. 471 (partim); DuBois, Orn. Gal. pl. 87. p. 134 (♀).

Aglaiä melanota, Sw. Orn. Dr. pl. 31 (♂), 43 (♀).

Calliste peruviana, Gray, Gen. p. 366. sp. 8; Bp. Consp. p. 234; R. Z. 1851, p. 140; Note s. l. Tang. p. 14; Sclater, Cont. Orn. 1851, p. 64.

Nitenti-flavescenti-ochracea: capite toto cum cervice postica saturate cupreo-rufis: interscapulio nigerrimo: remigibus reatricibusque nigris cærulescente limbatis: loris nigris: subtus clare viridis, ventre vix cærulescente: ventre imo, crisso et tibiis pallide rufis.

♀. *Supra viridis, interscapulio vix obscuriore: pileo et cervice postica cuprescentibus: loris nigris: subtus viridescens, ventre medio flavescenti-albido, imo cum crisso paululum rufescente.*

Long. tota 5·8, alæ 3·0, caudæ 2·0.

Hab. South-east Brazil (*Max.*).

Mus. Brit., &c.

I have not continued to employ Desmarest's name for this bird, because it is not found in Peru—but in South-eastern Brazil—a very different zoological province.

27. CALLISTE CYANOPTERA.

Aglaiä cyanoptera, Sw. Orn. Dr. pl. 8.

Tanagra argentea, Lafr. R. Z. 1843, p. 69.

Calliste cyanoptera, Gray, Gen. p. 366. sp. 10; Bp. Consp. p. 234. sp. 15; R. Z. 1851, p. 140; Note s. l. Tang. p. 15; Sclater, Cont. Orn. 1851, p. 64.

Callispiza cyanoptera, Cab. Mus. Hein. p. 27.

Argentescenti-ochracea, viridi micans: capite undique cum gutture alis caudaque nigris: harum marginibus angustis clare cæruleis.
♀. *Viridescens, uropygio et ventre subtus flavescenioribus, capite obscuriore et cærulescente tincto: gutture albido: alis caudaque nigris viridi limbatis.*

Long. tota 5·5, alæ 3·0, caudæ 2·0.

Hab. Venezuela, Caraccas (*Levraud*).

Mus. Paris.

f. *Gyrola*.

28. CALLISTE GYROLA.

Tang. peruviana viridis, Briss. Orn. iii. p. 23.

Tanagra gyrola, Linn. S. N. i. 315; Lath. Ind. Orn. i. 427; Vieill. Enc. Méth. p. 778.

Aglaia chrysoptera, Sw. An. Men. p. 356.

Calliste gyrola, Gray, Gen. p. 366. sp. 5; Bp. Consp. p. 234; Sclater, Cont. Orn. 1851, p. 67.

Callispiza gyrola, Cab. Mus. Hein. p. 28.

Gyrola chrysoptera, Bp. R. Z. 1851, p. 139; Note s. l. Tang. p. 13.

Le Rouverdin, Buff. H. N. iv. 286.

Tang. du Pérou, Buff. Pl. Enl. 133. fig. 2.

Tang. rouverdin, mâle, Desm. Tan. pl. 6.

Red-headed Greenfinch, Edwards, Glean. pl. 23.

Red-headed Tanager, Lath. G. H. vi. 15.

Clare viridis: capite et mento summo castaneis: campterio aurescente: abdomine medio cærulescente: tibiis pallide rufis.

Long. tota 4·5, alæ 2·7, caudæ 1·8.

Hab. Cayenne; Brit. Guiana (*Sw.*).

Mus. Brit.

29. CALLISTE GYROLOIDES.

Aglaia gyrola, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 32.

Tanagra gyrola, d'Orb. Voy. p. 272.

Aglaia peruviana, Sw. An. in Men. p. 356.

Callospiza gyrola, Tsch. Wieg. Arch. 1844, p. 286; F. P. p. 202.

Calliste cyanoventris, Gray, Gen. p. 366. sp. 19.

Aglaia gyroloides, Lafr. R. Z. 1847, p. 277.

Calliste gyroloides, Gray, Gen. App. p. 17; Bp. Consp. p. 234; Sclater, Cont. Orn. 1851, p. 67; P. Z. S. 1854, p. 115; 1855, p. 158; Cassin, Rep. U.S. Astron. Exp. ii. p. 182. pl. xix. fig. 1.

Gyrola cyanoventris, Bp. R. Z. 1851, p. 139; Note s. l. Tang. p. 13.

Clare viridis: capite et mento summo castaneis: torque nuchali et
campteriis aurescentibus: dorso postico et abdomine toto cæruleis:
tibiis pallide rufis.

Long. tota 5·0, alæ 2·9, caudæ 1·8.

Hab. Chiriqui, vic. of David (*Bridges*); New Grenada, Bogota;
Ecuador, prov. Quixos; Eastern Peru (*Tsch.*); Bolivia, Yuracares
(*d'Orb.*).

Mus. Brit., Paris., &c.

30. CALLISTE DESMARESTI.

Tang. rouverdin, femelle, Desm. Tan. pl. 7 (?).

Tanagra gyrola, Sw. Zool. Ill. n. s. pl. 28.

Calliste desmaresti, Gray, Gen. p. 366. sp. 6; Sclater, Cont. Orn.
1851, p. 67; Cassin, Rep. U.S. Astr. Exp. ii. p. 182. pl. xix. fig. 2.

Aglaia viridissima, Lafr. R. Z. 1847, p. 277.

Gyrola viridissima, Bp. R. Z. 1851, p. 139; Note s. l. Tang. p. 13.

Calliste viridissima, Bp. Consp. p. 234.

Clare viridis: capite toto et mento summo castaneis: tibiis pallide
rufis.

Long. tota 5·0, alæ 2·7, caudæ 1·7.

Hab. Venezuela; Trinidad.

Mus. Brit., &c.

g. *Euprepiste.*

31. CALLISTE BRASILIENSIS.

Tang. brasiliensis cærulea, Briss. Orn. iii. p. 9.

Tang. bleu de Brésil, Buff. Pl. Enl. 179. fig. 1.

Tanagra brasiliensis, Linn. S. N. i. p. 316; Vieill. Enc. Méth.
p. 780; Max. Beitr. iii. p. 477.

Tang. barbadensis cærulea, Briss. Orn. iii. p. 8?

Tang. bleu de Cayenne, Buff. Pl. Enl. 155. fig. 1; H. N. iv. p. 282?

Tanagra barbadensis, Kuhl, Ind. Pl. Enl. p. 3; Temm. Ind. Pl.
Col. p. 31?

Calliste albiventer, Gray, Gen. p. 366?

Calliste brasiliensis, Gray, Gen. p. 366. sp. 11; Bp. Consp. p. 234;
Sclater, Cont. Orn. 1851, p. 68.

Callospiza barbadensis, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 80.

Callospiza brasiliensis, Bp. R. Z. 1851, p. 468; Note s. l. Tang.
p. 19; Cab. Mus. Hein. p. 27.

Nigra: capite antico et laterali cum gutture, pectore et lateribus
necnon dorso postico alarum tectricibus et remigum marginibus
externis cæruleis: rostri ambitu, torque gutturali interrumpo, et
maculis in lateribus pectoris et ventris nigris: abdomine medio
et tectricibus subalaribus albis.

Long. tota 6·0, alæ 3·3, caudæ 2·2.

Hab. South-eastern Brazil, Rio (*Max.*).

Mus. Brit., &c.

32. CALLISTE FLAVIVENTRIS.

Tang. cayennensis cærulea, Briss. Orn. iii. p. 6.

Tang. tacheté de Cayenne, Buff. Pl. Enl. 290. fig. 2.

Tang. diable enrhumé, Buff. H. N. iv. 27; Desm. Tang. pl. 2.

Tanagra mexicana, Linn. S. N. i. 315.

Tanagra flaviventris, Vieill. N. D. d'H. N. xxxii. p. 411; Enc. Méth. p. 774.

Calliste mexicana, Gray, Gen. p. 366. sp. 21; Bp. Consp. p. 235.

Callospiza mexicana, Schomb. Reise, iii. 670.

Calliste flaviventris, Sclater, Contr. Orn. 1851, p. 69.

Callospiza flaviventris, Cab. Mus. Hein. p. 27.

Callospiza cayennensis, Bp. R. Z. 1851, p. 169; Note s. l. Tang. p. 20.

Black and Blue Tanager, Edwards, Glean. t. 350; Lath. G. H. vi. 35.

Nigra: capite antico et laterali cum gutture, pectore et lateribus necnon dorso postico et tectricum alarum majorum marginibus externis cæruleis; rostri ambitu, torque gutturali interrupto et maculis in lateribus pectoris et ventris nigris: tectricibus alarum minoribus turcoso-cæruleis: remigum externarum margine angusta cyanea: abdomine medio cum crisso et tectricibus subalaribus albis, sulphureo tinctis.

Long. tota 5·4, alæ 2·7, caudæ 1·8.

Hab. Cayenne; Upper Rio Negro (*Wallace*).

Mus. Brit., &c.

33. CALLISTE VIEILLOTI, sp. nov.

Tanagra flaviventris, Vieill. Enc. Méth. p. 774 (partim).

Callospiza mexicana, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 80; R. Z. 1851, p. 169; Note s. l. Tang. p. 20.

Nigra: capite antico et laterali cum gutture, pectore et lateribus necnon dorso postico et tectricum alarum majorum marginibus externis cæruleis: rostri ambitu, torque gutturali interrupto et maculis in lateribus pectoris et ventris nigris: tectricibus alarum minoribus turcoso-cæruleis: remigum margine externa anguste viridescente: abdomine medio cum crisso et tectricibus alarum inferioribus clare flavis.

♀. *Ventre pallidior.*

Long. tota 4·5, alæ 2·9, caudæ 1·7.

Hab. Trinidad.

Mus. Paris. et P. L. S.

This Tanager was first well-distinguished from *C. flaviventris* of Cayenne by Prince Bonaparte, who proposed to retain for it the Linnæan name *mexicana*. This I cannot assent to, as the bird has nothing to do with Mexico; and moreover, if that name is used at all, it must be applied to the Cayenne bird, as Linnæus's species was grounded principally on Brisson's *Tang. cayennensis cærulea*.

The *Calliste vieilloti* is common in collections from Trinidad, and

may be readily recognized by its bright yellow belly and under wing-coverts, which in *C. flaviventris* are creamy white tinged with yellow.

34. CALLISTE BOLIVIANA.

Aglaia mexicana, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 32.

Tanagra flaviventris, d'Orb. Voy. p. 270.

Callospiza boliviana, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 80 ; R. Z. 1851, p. 169 ; Note s. l. Tang. p. 20.

Calliste boliviana, Sclater, Contr. Orn. 1851, p. 69.

Nigra: capite antico et laterali cum gutture pectore et lateribus necnon dorso postico et tectricibus alarum minoribus cum marginibus tectricum majorum cæruleis: rostri ambitu, torque gutturali interrupto et maculis in lateribus pectoris et ventris nigris: remigum margine externa anguste cyanescente: abdomine medio crissoque cum tectricibus subalaribus flavissimis.

Long. tota 5·0, alæ 2·75, caudæ 1·9.

Hab. New Grenada, Bogota ; East Peru ; Upper Amazon, Ega (*Wallace*) ; Bolivia, Guarayos and Yuracares (*d'Orb.*).

Mus. Paris., Derbiano.

35. CALLISTE INORNATA.

Calliste inornata, Gould, P. Z. S. 1855, p. 158 (note).

Supra nigro-grisea: alis caudaque fusco-nigris: alarum tectricibus minoribus turcoso-cæruleis: subtus pallidior; abdomine toto crissoque et tectricibus subalaribus lactescenti-albis: rostro et pedibus nigris.

Long. tota 4·75, alæ 2·5, caudæ 1·75.

Hab. New Grenada, Bogota.

Mus. Joh. Gould.

This curious little bird, of which Mr. Gould possesses a single specimen, appears to me to represent an immature state of some species of true *Calliste*, probably as yet undescribed.

h. *Procnopis*.

36. CALLISTE ATRICÆRULEA.

Procnopis atrocærulea, Tsch. in Wieg. Arch. 1844, p. 285 ; F. P. p. 199. pl. 13. fig. 2.

Calliste atrocærulea, Gray, Gen. App. p. 17 ; Sclater, Contr. Orn. 1851, p. 59 ; Bp. Consp. p. 235.

Chalcothraupis atrocærulea, Bp. R. Z. 1851, p. 144 ; Note s. l. Tang. p. 19.

Calliærulea: interscapulio nigro: capite toto ex cinereo cærulescente: nuchali macula dilute straminea: alis nigris cæruleo limbatis: gula et pectore cyaneis.

Hab. Eastern Peru (*Tsch.*) ; Bolivia (*Bridges*).

Mus. Neuchatel, Derbiano.

37. CALLISTE RUFICERVIX.

Aglaia ruficervix, Prev. Voy. Venus, Ois. pl. 5. fig. 1.

Arremon rufivertex, Gray, Gen. p. 361. sp. 3.

Procnopis atrocærulea et Tanagra ruficervix, Bp. Compt. Rend. 1851, xxxii. p. 77.

Chalcothraupis ruficervix, Bp. R. Z. 1855, p. 144; Note s. l. Tang. p. 18.

Calliste leucotis, Sclater, Contr. Orn. 1851, p. 58.

Calliste ruficervix, Sclater, Contr. Orn. 1851, p. 58; P. Z. S. 1855, p. 158.

Cærulea: dorsi plumis medialiter et intus nigris: alis caudaque nigris cæruleo limbatis: pileo et cervice postica purpureis: vitta lata trans nucham aurescenti-rufa: fronte, mento et loris nigris: ventre medio crissoque ochraceis.

Long. tota 4·5, alæ 2·8, caudæ 1·7.

Hab. New Grenada, Bogota; Ecuador, vic. of Quito (*Bourcier*).

Mus. Brit., Paris.

38. CALLISTE ATRICAPILLA.

Tanagra (Aglaia) atricapilla, Lafr. R. Z. 1843, p. 290.

Calliste atricapilla, Bp. Consp. p. 235; Sclater, Contr. Orn. 1851, p. 59.

Chalcothraupis atricapilla, Bp. R. Z. 1851, p. 144; Note s. l. Tang. p. 19.

Procnias heinei, Cab. Mus. Hein. p. 31 (jun.); Bp. R. Z. 1851, p. 134; Note s. l. Tang. p. 8.

Cærulescenti-argentea: alis caudaque nigris eodem colore limbatis: pileo toto nigerrimo: gutturis totius et pectoris plumarum basibus nigris, apicibus autem acutis et colore clare viridibus.

♀. *Viridis*: pileo obscuriore: gutture mari simili, sed pallidiore.

Long. tota 4·8, alæ 2·8, caudæ 1·7

Hab. New Grenada, Bogota; Venezuela, near Caraccas (*Dyson*); Popayan (*Mus. Derb.*).

Mus. Brit., Derbiano.

39. CALLISTE ARGENTEA.

Procnopis argentea, Tsch. Wieg. Arch. 1844, p. 285; F. P. p. 199. pl. 14. fig. 2.

Calliste argentea, Gray, Gen. App. p. 14; Bp. Consp. p. 235; Sclater, Contr. Orn. 1851, p. 60.

Chalcothraupis argentea, Bp. R. Z. 1851, p. 145; Note s. l. Tang. p. 19.

Supra cinerascenti-argenteo-cyanescens, pileo nigro: gutture aurescenti-stramineo: pectore et ventre medio nigris.

Long. tota 5·5.

Hab. Eastern Peru (*Tsch.*).

Mus. Neuchatel et Derbiano.

40. CALLISTE NIGRIVIRIDIS.

Tanagra nigroviridis, Lafr. R. Z. 1843, p. 69; Mag. de Zool. 1843, pl. 43.

Calliste nigro-viridis, Gray, Gen. p. 366. sp. 23; Bp. Consp. p. 235; Selater, Contr. Orn. 1851, p. 56; P. Z. S. 1855, p. 158.

Callispiza nigroviridis, Cab. Mus. Hein. p. 27.

T. (Aglaiia) nigroviridis, Less. Descr. p. 348.

Chalcothraupis nigro-viridis, Bp. R. Z. 1851, p. 145; Note s. l. Tang. p. 19.

Nigra: pileo cervice et dorso postico cum corpore toto subtus argentescenti-cyaneis, plumis subtus nigris argentescenti-cyaneo terminatis: fronte, loris, regione oculari et mento nigris: abdomine medio albicante: renigibus reatricibusque nigris cyaneo marginatis: tectricibus alarum minoribus intense cyaneis: majoribus autem argentescenti-cyaneo marginatis.

Long. tota 5·0, alæ 2·9, caudæ 1·8.

Hab. New Grenada, Bogota; Ecuador, prov. Quixos; Western Ecuador, Calacali (*Bourcier*).

Mus. Paris., Brit.

41. CALLISTE CYANESCENS, sp. nov.

Nigra: pileo, cervice et dorso postico cum corpore subtus argentescenti-cyaneis; plumis subtus nigris argentescenti-cyaneo terminatis: fronte, loris, regione oculari et mento summo nigris: abdomine medio crissoque albis: alis caudaque nigris cyanescente marginatis, campteriis intensius cyanescentibus.

Long. tota 5·0, alæ 3·0, caudæ 1·9.

Hab. Venezuela, Caraccas (*Levrard*); Colonia di Tovar, alt. 8000 feet (*Dyson*).

Mus. Brit., Paris.

Obs. Affinissima *C. nigriviridi* et crassitie paulo majore, alæ totius marginibus cyanescentibus unicoloribus et colore pectoris cyanescentiore, ventris autem albidioris, vix distinguenda.

I have seen many specimens of this bird, which is the Venezuelan representative of *Calliste nigriviridis*. It is certainly very closely allied to that species, but presents as good distinctive characters as many other birds which are now generally allowed to be independent species.

42. CALLISTE LARVATA.

Calliste larvata, DuBus, Esq. Orn. pl. 9; Gray, Gen. App. p. 17; Bp. Consp. p. 236; Selater, Contr. Orn. 1851, p. 64.

Tatao larvatus, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 16.

Capite colloque toto cum gula nitidissime cuprescenti-aureis: rostri ambitu nigro; vitta ultra frontem et capitis lateribus cæruleis, hujus coloris margine posteriore in viridescentem transeunte: interscapulio, alis caudaque cum pectore toto nigris: tectricibus alarum minoribus cæruleis; mediarum autem et majorum marginibus cum

dorso postico cyaneis : remigibus et rectricibus aurescenti viridi limbatis : abdomine medio albo, utrinque cæruleo, lateribus viridescentibus : rostro et pedibus nigris.

♀. *Coloribus minus claris.*

Long. tota 5·0, alæ 2·9, caudæ 1·8.

Hab. Southern Mexico, Tabasco (*Ghiesbreght*) ; Chamalican river, Spanish Honduras (*Dyson*).

Mus. Brit., Derbiano.

43. CALLISTE FRANCISCÆ.

Aglaia fanny (!), Lafr. R. Z. 1847, p. 72.

Calliste fanny, Gray, Gen. App. p. 17 ; Bp. Consp. p. 236. sp. 38 ; Des Murs, Icon. Orn. pl. 56. fig. 1.

Calliste franciscæ, Sclater, P. Z. S. 1856, p. 142.

Capite colloque toto cum gula nitidissime virescenti-aureis : rostri ambitu nigro, deinde cæruleo et in viridem transeunte : interscapulio alis caudaque cum pectore toto nigerrimis : dorso postico et tectricibus alarum mediis viridescenti-cyaneis ; remigibus et rectricibus eodem colore anguste limbatis : tectricibus alarum summis cæruleis : abdomine medio crissoque albis, lateribus viridescenti-cæruleis : rostro et pedibus nigris.

Long. tota 5·0, alæ 2·8, caudæ 1·6.

Hab. Veragua (*Delattre*) ; vic. of David, prov. Chiriqui, Panama (*Bridges*).

Mus. Acad. Philadelph. et Joh. Gould.

This beautifully coloured bird, which was first discovered by Delattre in Veragua, has been generally supposed to be the same as the *C. larvata*, and it was only upon a close examination of the specimen lately procured by Mr. Bridges, and comparison of it with individuals of the other species, that I was enabled to recognize its difference. This *Calliste* is slightly smaller than the *larvata*, and has the head of a much lighter golden green, in some lights passing almost into pale green. In the other bird these parts are more of a coppery brown. In this species, also, the lower back and edgings of the middle and greater wing-coverts are of a much greener tinge, and there is more white in the middle of the belly and crissum.

44. CALLISTE NIGRICINCTA.

Aglaia nigro-cincta, Bp. P. Z. S. 1837, p. 121.

Calliste nigro-cincta, Gray, Gen. p. 366. sp. 16 ; Bp. Consp. p. 235 ; Sclater, Contr. Orn. 1851, p. 68.

Chalcothraupis nigro-cincta, Bp. R. Z. 1851, p. 145 ; Note s. l. Tang. p. 19.

Calliste thalassina, Strickl. Ann. N. H. (1844) xiii. p. 419 ; Gray, Gen. p. 366. sp. 30 ; Sclater, Contr. Orn. 1851, p. 57 ; P. Z. S. 1854, p. 115, et 1855, p. 158.

Aglaia wilsoni, Lafr. R. Z. 1847, p. 71.

Calliste wilsoni, Gray, Gen. App. p. 17 ; Bp. Consp. p. 236. sp. 37 ; Des Murs, Icon. Orn. pl. 56. fig. 2.

Chrysothraupis thalassina, Bp. R. Z. 1851, p. 143; Note s. l. Tang. p. 17.

Calliste larvata, Cassin, Rep. U.S. Astr. Exp. p. 182. pl. xviii. fig. 2.

Capite et cervice undique cum gula thalassino-cyaneis, regione auriculari cum mento pallide viridibus: loris, interscapulio et pectore toto nigerrimis: dorso postico late cæruleo: abdomine medio albo, lateribus cærulescentibus: remigibus et rectricibus nigris cærulescenti-viridi marginatis: tectricibus alarum summis late cæruleis, mediis et majoribus viridibus.

Long. tota 5·0, alæ 2·8, caudæ 1·8.

Hab. New Grenada, Bogota; Ecuador, prov. Quixos; Eastern Peru, Guaunco (*Delatre*); River Ucayali (*Hawxwell*); Marabitanas on the Rio Negro (*Natt.*).

Mus. Brit., Derbiano, Vindobiensi.

45. CALLISTE CYANEICOLLIS.

Aglaia cyanicollis, Lafr. et d'Orb. Mag. de Zool. 1837, p. 33.

Tanagra cyanicollis, d'Orb. Voy. p. 271. pl. 25. fig. 1.

Callospiza cyanicollis, Tsch. Wieg. Arch. 1844, p. 286; F. P. p. 202.

Aglaia cæruleocephala, Sw. An. in Men. p. 356.

Calliste cæruleocephala, Gray, Gen. p. 366. sp. 18; Bp. Consp. p. 235. sp. 19.

Calliste cyanicollis, Sclater, Contr. Orn. 1851, p. 115; P. Z. S. 1854, p. 115, et 1855, p. 158; Cassin, Rep. U.S. Astr. Exp. ii. p. 181. pl. xviii. fig. 1.

Capite toto et gutture undique late cyaneis: gula purpurascens: loris interscapulio et abdomine toto nigerrimis; hoc cæruleo lavato: dorso postico et alarum tectricibus pallide viridibus, tectricibus alarum summis aurescentioribus: remigibus et rectricibus nigris viridi anguste marginatis.

Long. tota 4·7, alæ 2·6, caudæ 1·7.

Hab. New Grenada, Bogota; Ecuador, prov. Quixos (*Gould*); Eastern Peru (*Tsch.*); Bolivia, Yuracares (*d'Orb.*).

Mus. Brit., Paris., &c.

46. CALLISTE LABRADORIDES.

Tanagra (Aglaia) labradorides, Boiss. R. Z. 1840, p. 67; Less. Descr. p. 347.

Aglaia labradorides, Prevost, Voy. Venus, Ois. pl. 5. fig. 2.

Calliste labradorides, Gray, Gen. p. 366. sp. 25; Bp. Consp. p. 235; Sclater, Contr. Orn. 1851, p. 57; P. Z. S. 1855, p. 158.

Chalcothraupis labradorides, Bp. R. Z. 1851, p. 144; Note s. l. Tang. p. 18.

Nitenti-viridis cæruleo vix tincta, capite aurescentiore: fronte, loris, mento summo, nucha et cervice postica cum scapularibus nigris: alis caudaque nigris cærulescenti-viridi marginatis; tectricibus

alarum summis cæruleis : ventre imo crissoque pallide ochraceis.

Long. tota 4·5, alæ 2·6, caudæ 1·7.

Hab. New Grenada, Bogota.

Mus. Brit., &c.

47. CALLISTE PARZUDAKII.

Tanagra parzudakii, Lafr. R. Z. 1843, p. 97; Mag. de Zool. 1843, Ois. pl. 41.

Calliste parzudakii, Gray, Gen. p. 366. sp. 27; Bp. Consp. p. 235. sp. 26; Selater, Contr. Orn. 1851, p. 66; P. Z. S. 1854, p. 115, et 1855, p. 158.

Chrysothraupis parzudakii, Bp. R. Z. 1851, p. 143; Note s. l. Tang. p. 18.

Nigra: dorso postico cum tectricibus alarum minoribus et tectricum majorum apicibus externis argenteo-cyanescentibus: pileo toto cum nucha et collo laterali flavissimis; fronte et regione oculari ruberrimis: loris nigris: subtus argenteo-cyanescens ochraceo tincta; gula nigra; ventre medio crissoque ochraceis.

Long. tota 5·5, alæ 3·3, caudæ 2·0.

Hab. New Grenada, Bogota; Ecuador, Quixos.

Mus. Brit.

48. CALLISTE LUNIGERA.

Calliste lunigera, Selater, Contr. Orn. 1851, p. 65. pl. 70. fig. 2.

Nigra: dorso postico cum tectricibus alarum minoribus et tectricum majorum secundariarumque marginibus argenteo-viridescentibus: pileo toto et capitibus lateribus aurantiacis, macula magna auriculari cum gula nigris: pectore argenteo-viridescente; abdomine rufescenti-ochraceo.

Long. tota 5·3, alæ 2·8, caudæ 1·8.

Hab. Western Ecuador, vicinity of Quito (*Jameson*).

Mus. Gul. Jardine, Bart. et P. L. S.

49. CALLISTE CHRYSOTIS.

Calliste chrysothis, DuBus, Esq. Orn. pl. 7; Gray, Gen. App. p. 17; Bp. Consp. p. 236; Selater, Contr. Orn. 1851, p. 66.

Chrysothraupis chrysothis, Bp. R. Z. 1851, p. 142; Note s. l. Tang. p. 17.

Supra nigra: dorso postico et interscapulii alarumque pennarum omnium marginibus clare viridibus: pileo nigro: fronte aurescenti-viridi: regione auriculari cuprescenti-aureo: subtus clare viridis; abdomine medio crissoque castaneis.

Long. tota 5·5, alæ 2·9, caudæ 1·9.

Hab. Eastern Peru (*DuBus*).

Mus. Bruxell., Derbiano.

50. CALLISTE XANTHOCEPHALA.

Callospiza xanthocephala, Tsch. Wieg. Arch. 1844, p. 285 ; F. P. p. 200. pl. 17. fig. 2 (*fig. pess.*) ; Gray, Gen. App. p. 17 ; Bp. Consp. p. 235.

Calliste lamprotis, Sclater, Contr. Orn. 1851, p. 65.

Chrysothraupis xanthocephala, Bp. R. Z. 1851, p. 443 ; Note s. l. Tang. p. 17.

Læte cæruleo-viridis : *interscapulii, alarum et caudæ plumis nigris eodem viridi limbatis* : *fronte, loris, gula summa et cervice postica nigris* : *pileo toto aurantiaco* : *capitis lateribus et regione auriculari flavissimis* : *ventre medio crissoque pallide ochraceis.*

Long. tota 5·3, alæ 2·9, caudæ 1·9.

Hab. Eastern Peru (*Tsch.*) ; Bolivia (*Bridges.*)

Mus. Brit., Neuchatel.

51. CALLISTE VENUSTA.

Calliste xanthocephala, Sclater, Contr. Orn. 1851, p. 58 ; P. Z. S. 1854, p. 115.

Calliste venusta, Sclater, P. Z. S. 1854, p. 248, et 1855, p. 158.

Læte cæruleo-viridis : *interscapulii, alarum caudæque plumis nigris, eodem viridi marginatis* : *fronte, loris, gula summa et cervice postica nigris* : *pileo lateribusque capitis flavis* : *ventre medio crissoque pallide ochraceis* : *rostro nigro* : *pedibus pallidis.*

Long. tota 4·5, alæ 2·5, caudæ 1·5.

Hab. New Grenada, Bogota ; prov. Quixos in Ecuador.

Mus. Brit., Berol.

Genus XXXIV. DIVA.

Procnopis, Bp. Compt. Rend. xxxii. p. 80 (1851), nec Cab.

Diva, Sclater, Tan. Cat. Sp. p. 16 (1854).

Forma Callistæ, sed rostro brevior et basi dilatata ; dente finali obsoleto : *alæ longæ, remigibus secunda, tertia et quarta longissimis, prima brevior quam quinta* : *cauda modica quadrata* : *ptilosis cærulea, unicolor.*

1. DIVA VASSORI.

Tanagra (Euphone?) vassorii, Boiss. R. Z. 1840, p. 4 ; Mag. de Zool. 1841, pl. 23.

Aglaia diva, Less. Echo d. M. S. 1844, p. 57 ; Descr. d. Mam. et Ois. p. 347.

Calliste vassorii, Gray, Gen. p. 366. sp. 26 ; Bp. Consp. p. 235. sp. 25 ; Sclater, Contr. Orn. 1851, p. 60.

Procnopis vassori, Bp. Compt. Rend. xxxii. p. 80 ; R. Z. 1851, p. 134 ; Note s. l. Tang. p. 9.

Diva vassori, Sclater, Tan. Cat. Sp. p. 13 ; P. Z. S. 1855, p. 158.

Lucide cærulea: loris, alis caudaque nigris: tectricibus alarum minoribus et tectricum majorum marginibus cæruleis.

♀ *aut junior. Griseo-cinerea: subtus clarior.*

Long. tota 4·7, alæ 2·8, caudæ 1·7.

Hab. Bogota.

Mus. Brit., &c.

The bird which I formerly described as *Pipridea albiventris* (Contr. Orn. 1852, p. 131. pl. 100. fig. 2), and afterwards made a second species of this form, is, I now think, though somewhat intermediate in characters, more strictly referable to the neighbourhood of the genus *Dacnis* in the family *Cærebidæ*.

Genus XXXV. PIPRIDEA.

Pipraeidea, Sw. Zool. Journ. iii. p. 173 (1827).

Procnopis, Bp. Compt. Rend. xxxii. p. 80, nec Cab.

Rostrum Callistæ, sed brevius, altius, basi dilatata, rictu plumoso: alæ modicæ, remigibus quatuor primis fere æqualibus sed secunda et tertia paulo longioribus: cauda modica subquadrata: ptilosis cærulea et rufa: sexus dissimiles.

1. PIPRIDEA MELANONOTA.

Pico di punzon azul y canela, Azar. Pax. i. p. 413.

Tanagra melanonota, Vieill. N. D. d'H. N. xxxii. 407.

Tanagra melanotha, Vieill. Enc. Méth. p. 773.

Tanagra vittata, Temm. Pl. Col. 48 (♂ et ♀).

Pipraeidea cyanea, Sw. Zool. Journ. 1827, p. 173; Bp. Consp. p. 231.

Aglaiia vittata, Darwin, Voy. Beagle, p. 98.

Calliste vittata, Gray, Gen. p. 366. sp. 24.

Procnopis vittata, Cab. in Wieg. Arch. 1844, p. 284.

Procnopis melanota, Bp. Compt. Rend. xxxii. p. 80; R. Z. 1851, p. 134; Note s. l. Tang. p. 8.

Calliste melanonota, Sclater, Contr. Orn. 1851, p. 61.

Pipraeidea melanonota, Sclater, Tan. Cat. Sp. p. 13.

Supra cærulea: interscapulio toto valde obscuriore, nigricanti-cæruleo tincto: alis caudaque nigris nigricante cæruleo limbatis: campteriis late cæruleis: vitta lata frontali per oculos utrinque transeunte nigerrima: subtus ochraceo-cinnamomea.

♀. *Obscurior: interscapulio fusco: alarum caudæque marginibus viridescentibus.*

Long. tota 5·8, alæ 3·1, caudæ 2·0.

Hab. Southern Brazil; Uruguay, Maldonado (*Darwin*); Paraguay (*Azara*).

Mus. Brit., &c.

2. PIPRIDEA VENEZUELENSIS, sp. nov.

Supra late cærulea: interscapulio alis caudaque nigris, cæruleo

tinctis : campteriis læte cæruleis : vitta frontali per oculos utrinque transeunte nigerrima : subtus ochracea.

Long. tota 5·1, alæ 3·1, caudæ 1·9.

Hab. Venezuela, Caraccas (*Levraud*).

Mus. Parisiensi.

Obs. Affinissima *P. melanotæ*, sed paulo minor et colore cæruleo clariore et rostro breviora distinguenda.

3. PIPRIDEA CASTANEIVENTRIS.

Calliste castaneiventris, Sclater, Contr. Orn. 1851, p. 60.

Pipraidea castaneiventris, Sclater, Tan. Cat. Sp. p. 13.

Supra fusco-cærulea : alis caudaque nigris fusco-cæruleo limbatis : loris et regione oculari atris : infra brunneo-castanea : rostro elongatiore, mandibula inferiore brunnescente, superiore cum pedibus nigris.

Long. tota 6·4, alæ 3·15.

Hab. Bolivia (*Bridges*).

Mus. Derbiano.

Genus XXXVI. CHLOROCHRYSA.

Chlorochrysa, Bp. Compt. Rend. xxxii. p. 76 (1851).

Calliparæa, Bp. R. Z. 1851, p. 129.

Rostrum tenue, elongatum, mandibula superiore paulum incurva, inferiore rectissima : dente finali fere obsoleto : alæ elongatæ, remigibus quatuor primis fere æqualibus et longissimis : cauda brevi quadrata : ptilosis nitentissime viridis : serus similes.

1. CHLOROCHRYSA CALLIPARÆA.

Callospiza calliparæa, Tsch. in Wieg. Arch. 1844, p. 202 ; F. P. p. 202.

Calliste calliparæa, Gray, Gen. App. p. 17 ; Bp. Consp. p. 235. sp. 30.

Calliste bourcierii, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 76.

Calliparæa bourcierii, Bp. R. Z. 1851, p. 129 ; Note s. l. Tang. p. 3.

Chlorochrysa calliparæa, Sclater, Contr. Orn. 1851, p. 99. pl. 73.

fig. 1.

Lucide viridis : regione oculari dorso inferiore et ventre cærulescente tinctis : gula nigra : regione auriculari castanea : uropygio croceo.

Long. tota 4·6, alæ 2·8, caudæ 2·0.

Hab. Wood-region of E. Peru (*Tsch.*) ; Valley of Baños, Ecuador (*Bourcier*) ; Anolaima, New Grenada (*Chapoul*).

Mus. Berol., Parisiensi.

2. CHLOROCHRYSA PHÆNICOTIS.

Calliste phænicotis, Bp. Compt. Rend. Ac. Sc. Par. xxxii. p. 76.

Calliparæa phænicotis, Bp. R. Z. 1851, p. 129 ; Note s. l. Tang. p. 3.

Chlorochrysa phanicotis, Selater, Contr. Orn. 1851, p. 100. pl. 73. fig. 2.

Lucide viridis: tectricibus alarum minoribus, tibiis et macula altera suboculari et altera pone oculum utrinque splendenti-olivaceo-brunneis: his secundis maculis corallino-rubro versus nucham terminatis.

♀. *Mari similis sed minor.*

Long. tota 5·0, alæ 3·0, caudæ 1·7.

Hab. Ecuador, Nanegan, north of Quito (*Bourcier*).

Mus. Paris. et Gul. Jardine, Bart.

Genus XXXVII. TANAGRELLA.

Tanagrella, Sw. Class. B. ii. p. 121.

Hypothlypis, Cab. in Schomb. Reise, iii. p. 667.

Rostrum tenue, elongatum, mandibula inferiore recta, superiore incurva, dente finali indistincto: alæ longæ, remigibus secunda et tertia longissimis, prima quartam æquante et illis vix brevior: cauda longa quadrata: ptilosis nigro-cærulea: sexus similes.

1. TANAGRELLA VELIA.

Red-bellied Blue-bird, Edwards' Glean. pl. 22.

Motacilla velia, Linn. S. N. i. p. 336 (partim).

Le Pipit bleu de Surinam, Buff. Pl. Enl. 669. fig. 3.

Le Pitpit varié, Buff. H. N. v. 341.

Tangara varié, Desm. Tan. pl. 2.

Tanagra velia, Vieill. N. D. d'H. N. xxxii. p. 424; Enc. Méth.

p. 780.

Tanagra varia, Steph. Zool. xiv. p. 7; Cuv. Règn. An. i. p. 367.

Hypothlypis iridina, Cab. in Schomb. Reise, iii. p. 667?

Tanagra iridina, Hartl. R. Z. 1841, p. 105?

Tanagrella iridina, Gray, Gen. p. 366.

Tanagrella velia, Bp. Consp. p. 236; Selater, Contr. Orn. 1851,

p. 97.

Red-bellied Tanager, Lath. G. H. vi. 34.

Nigra: gula, capitis lateribus, alarum caudæque marginibus et caudæ tectricibus superioribus cæruleis: dorso postico viridescente argenteo nitente: pileo antico viridescente cyaneo, versus rostrum cærulescentiore: loris et narium plumis nigris: subtus cærulea, collo antico nigro: pectore lilacescente: ventre medio et crisso castaneis: tectricibus subalaribus albis: rostro et pedibus nigris.

Long. tota 5·4, alæ 2·9, caudæ 2·0.

Hab. Cayenne; British Guiana (*Schomb.*).

Mus. Brit., &c.

2. TANAGRELLA ELEGANTISSIMA.

Tanagrella elegantissima, J. et E. Verr. Rev. Zool. 1853, p. 195.

Nigerrima: gula, capitis lateribus et pileo antico cum fronte et loris,

alarum caudæque marginibus et tectricibus caudæ superioribus latissime cæruleis: dorso postico viridescente argenteo nitente: subtus cærulea, collari interrupto nigro: pectore paululum lilacescente: ventre medio et crisso castaneis: tectricibus alarum inferioribus albis: rostro et pedibus nigris.

Long. tota 5·5, alæ 3·0, caudæ 1·9.

Hab. New Grenada, Bogota; Rio Xié (*Natterer*); Porto Cabello (*Mus. Hein.*).

Mus. Heineano; Vindob.

This species, of which I have seen many examples in the most recently imported Bogota collections, is very closely allied to the *T. velia* of Cayenne; but in the present bird the front lores and throat are of the same full blue as the wing-edgings, and there is no tinge of greenish colouring on the head as in its Cayenne representative. The whole colouring is also generally more intense, and the black collar on the throat is narrower and less defined.

3. TANAGRELLA CYANOMELAS.

Sylvia surinamensis cærulea, Briss. Orn. iii. p. 536 ?

Motacilla velia, Gm. S. N. i. 991 (partim).

Tanagra cyanomelas, Max. Beitr. iii. 453.

Tanagrella multicolor, Sw. An. in Men. p. 313.

Tanagrella tenuirostris, Sw. Class. ii. p. 121.

Tanagrella velia, Gray, Gen. p. 366. sp. 1.

Tanagrella cyanomelas, Bp. Consp. p. 236; Sclater, Contr. Orn. 1851, p. 97.

Nigra: gula, fronte, capitis lateribus, marginibus alarum et caudæ cum tectricibus caudæ superioribus cæruleis: pileo antico supra frontem et dorso postico viridescenti-argenteis: subtus late cærulescenti-grisea, ventre medio et crisso castaneis: collari interrupto nigro: tectricibus subalaribus albis.

Long. tota 5·7, alæ 3·0, caudæ 2·2.

Hab. South-eastern Brazil (*Max.*).

Mus. Brit., &c.

4. TANAGRELLA CALOPHRYS.

Hypothlypis callophrys, Cab. in Schomb. Reise, iii. 668 (note).

Tanagrella callophrys, Bp. Compt. Rend. 1851, p. 77; R. Z. 1851, p. 130; Note s. l. Tang. p. 5; Sclater, Contr. Orn. 1851, pl. 74. p. 98.

Supra nigerrima: fronte angusta, capitis lateribus cum marginibus alarum et caudæ et tectricibus caudæ superioribus cæruleis: pileo mediali cum superciliis latis et elongatis et dorso postico viridescenti-argenteis: subtus cærulea, ventre imo et crisso nigris: tectricibus subalaribus nigricanti-cinereis: rostro et pedibus nigris.

Long. tota 5·4, alæ 3·0, caudæ 2·0.

Hab. Ecuador, prov. Quixos (*Bourcier*); East Peru, river Ucajali (*Hawxwell*).

Mus. Berol.

Genus XXXVIII. GLOSSIPTILA.

Neornis, Hartl. 1846, Nachtr. z. Verz. Brem. Mus., nec Hodgs.

Rostrum tenue, elongatum, incurvum, commissura arcuata, gonyde recta, dente finali nullo: alæ longæ, remige tertia et quarta longissimis et secundam paulo superantibus, prima paulo brevior quam quinta: cauda breviuscula quadrata: sexus dissimiles: ptilosis mascula cærulea, fæminea grisea.

1. GLOSSIPTILA RUFICOLLIS.

Motacilla campestris, Linn. S. N. i. p. 329 (♀)?

Rufous-throated Tanager, Lath. Syn. ii. pt. 1. p. 241.

Tanagra ruficollis, Gm. S. N. ii. p. 894; Edwards, Glean. pl. 122.

Tanagrella ruficollis, Gray, Gen. App. p. 17; Bp. Consp. p. 236;

Gosse, B. of Jam. p. 236; Ill. B. Jam. pl. 58.

Tachyphonus rufigularis, Lafr. R. Z. 1846, p. 320.

Pyrrhulagra ruficollis, Bp. Consp. p. 236 (excl. syn.).

Neornis cærulea, Hartl. Nachtr. z. Verz. Mus. Brem. p. 8 (descr. nulla).

Rufous-chinned Finch, var. A, Lath. G. H. vi. 126.

Cærulescenti-plumbea, facie nigricante: plaga magna gutturali castaneo-rufa.

♀. *Cupite colloque viridescenti-griseis: dorso olivascenti-brunneo: subtus cinerea, medialiter albescens.*

Long. tota 4·8, alæ 2·8, caudæ 1·8.

Hab. Jamaica (Gosse); S. Domingo.

Mus. Paris., Brit.

Genus XXXIX. CHLOROPHONIA.

Chlorophonia, Bp. R. Z. 1851, p. 137.

Triglyphidia, Reich. Av. Syst. Nat. pl. 73.

Genus vix ab Euphonia diversum: rostrum minus altum et basi magis dilatata: alæ longæ: remigibus 4 primis inter se fere æqualibus: cauda brevissima: tarsi breves: ptilosis læte viridis, flavo varia: sexus dissimiles.

1. CHLOROPHONIA VIRIDIS.

Tanagra viridis, Vieill. N. D. d'H. N. xxxii. p. 426; Temm. Pl. Col. 36. fig. 3.

Pipra chlorocapilla, Shaw, Zool. xiii. p. 255.

Euphonia viridis, Gray, Gen. p. 367. sp. 10; Tsch. in Wiegmann. Arch. 1844, p. 284; Bp. Consp. p. 233; Selater, Contr. Orn. 1851, p. 88.

Procnias (!) viridis, Cab. in Tsch. F. P. p. 197.

Chlorophonia viridis, Bp. R. Z. 1851, p. 137; Note s. l. Tang. p. 12.

Clare viridis: ciliis oculorum et dorso toto cæruleis: abdomine flavo.

♀. *Clare viridis*; *cervice postica et uropygio cæruleis*: *abdomine flavescenti-viridi*.

Long. tota 4·5, alæ 2·5, caudæ 1·4.

Hab. S.E. Brazil (*Temm.*); S. João del Rey and Ypanema (*Natt.*); Eastern Peru (*Tsch.*).

Mus. Brit., Vindob.

2. CHLOROPHONIA LONGIPENNIS.

Euphonia longipennis, DuBus, Bull. Ac. Brux. xxii. p. 156 (1855).

Clare viridis: *cervice postica et dorso imo cum ciliis oculorum cæruleis, interscapulio eodem colore lavato*: *abdomine late flavo*.

♀. *Viridis*; *uropygio cærulescente*: *abdomine flavescenti-viridi*.

Long. tota 4·5, alæ 2·55, caudæ 1·2.

Hab. New Grenada, Bogota.

Mus. Dubusi, et P. L. S.

3. CHLOROPHONIA FRONTALIS.

• *Chlorophonia frontalis*, Bp. MS.

Euphonia frontalis, Sclater, Contr. Orn. 1851, p. 89.

Clare viridis: *cervice postica et uropygio toto cum ciliis oculorum cæruleis*: *fronte et abdomine toto flavis*.

Long. tota 4·5, alæ 2·7, caudæ 1·5.

Hab. Venezuela, Caraccas (*Levraud*).

Mus. Berol., Paris., Heineano.

4. CHLOROPHONIA OCCIPITALIS.

Euphonia occipitalis, DuBus, Esq. Orn. pl. 14 (♀); Gray, Gen. App. p. 17; Bp. Consp. p. 233; Sclater, Contr. Orn. 1851, p. 90.

Chlorophonia occipitalis, Bp. R. Z. 1851, p. 138; Note s. l. Tang. p. 12; Cassin, Rep. U.S. Astr. Exp. ii. p. 182. pl. xx. fig. 2 (♂).

Clare viridis: *semitorque angusto postico et vertice summa cæruleis*: *vitta pectorali nigro-castanea*: *abdomine flavissimo, lateribus virescentibus*.

♀. *Viridis*, *macula verticali et semitorque minus conspicua cæruleis*: *abdomine flavo, lateribus virescentibus*.

Long. tota 5·5, alæ 2·8.

Hab. S. Mexico (*DuBus*).

Mus. Brit., Parisiensi.

5. CHLOROPHONIA PRETRII.

Tanagra (Euphonia) pretrei, Lafr. R. Z. 1843, p. 97; Mag. de Zool. 1842, Ois. pl. 42.

Euphonia pretrei, Gray, Gen. p. 367. sp. 19; Bp. Consp. p. 233; Sclater, Contr. Orn. 1851, p. 89.

Chlorophonia pretrei, Bp. R. Z. 1851, p. 138; Note s. l. Tang. p. 12.

Euphonia pyrrhophrys, Sclater, Contr. Orn. 1851, p. 89. pl. 75. fig. 2 (♀).

♂. *Clare viridis*: *pileo cæruleo*: *fronte angusta et linea super-*

ciliari nigris: fascia uropygiali et abdomine flavissimis: hujus media parte cum crisso castaneis: torque pectorali angusto nigro.
 ♀. *Viridis: pileo cæruleo: fronte et superciliis castaneis: uropygio et abdomine flavicantibus.*

Long. tota 4·5, alæ 2·7, caudæ 1·6.

Hab. New Grenada, Bogota.

Mus. Brit., &c.

Genus XL. EUPHONIA.

Euphonia, Desm. H. N. des Tang. (1805).

Cyanophonia, Bp. R. Z. 1851, p. 138.

Pyrrhuphonia, Bp. Compt. Rend. xxi. p. 423 (1850).

Ypophæa, Bp. Ann. d. Sc. Nat. 1855.

“*Acroleptes*, Schiff.,” Bp. l. c.

Iliolopha, Bp. l. c.

Rostrum breve, altum, dilatatum, culmine incurvo; gonyde ascendente; commissura ad apicem dentata et plerumque serrata: alæ longæ: remigibus 4 primis inter se fere æqualibus sed secunda et tertia plerumque paulo longioribus: cauda brevi quadrata: sexus dissimiles: ptilosis marium nigra et flava; fæminarum olivacea.

a. *Cyanophonia*.

1. EUPHONIA MUSICA.

L'Organiste, Buff. H. N. iv. p. 290.

L'Organiste de S. Dominge, Buff. Pl. Enl. 809. fig. 1.

Pipra musica, Gm. S. N. 1004.

Tanagra musica, Vieill. Enc. Méth. p. 787.

Euphonia cæruleocephala, Sw. Class. ii. 286.

Euphonia musica, Gray, Gen. p. 367. sp. 1; Bp. Consp. p. 232; Sclater, Contr. Orn. 1851, p. 82.

Euphone musica, Lembeye, Aves de Cuba, p. 42.

Supra nitenti-nigra: pileo cæruleo: fronte aurea, postice nigro-marginata: uropygio et abdomine toto fulvo-aurantiis, gula nigra.

Long. tota 4·4, alæ 2·5, caudæ 1·5.

Hab. S. Domingo (Buff., Sullé); Cuba (Lembeye).

Mus. Brit.

2. EUPHONIA FLAVIFRONS.

Tanagra flavifrons, Lath. Ind. Orn. Suppl. p. 47 (♀); Vieill. Enc. Méth. p. 775.

Emberiza flavifrons, Sparm. Mus. Carls. iv. no. 92 (♀).

Euphone organiste, Desm. Tan. pl. 19 ♂, 20 ♀; Vieill. Gal. Ois. Suppl. pl. s. n. (♂ et ♀).

Cyanophonia musica, Bp. R. Z. 1851, p. 138; Note s. l. Tang. p. 12.

Euphoniæ sclateri, Bp. in Mus. Paris.

Euphonia flavifrons, Sclater, Tan. Cat. Sp. p. 13 et p. 16.

♂. *Supra nitenti-nigra* : pileo cæruleo : fronte aurea postice nigro marginata : uropygio et corpore subtus flavo-aurantiis.

♀. *Olivaceo-viridis* ; uropygio et corpore subtus flavescentioribus : gula flavicante : fronte aurea postice angustissime nigro marginata.

Long. tota 4·2, alæ 2·4, caudæ 1·4.

Hab. Porto Rico (*Maugé*) ; Trinidad ; Cayenne ?

Mus. Parisiensi.

This is the species figured by Desmarest and Vieillot as the true *musica*, and considered by me in my Synopsis of this genus, given in the 'Contributions to Ornithology' for 1851, to be that bird in an immature state. But on an examination of Desmarest's types in the Paris Museum, I agree with Prince Bonaparte (who has done me the honour to call this species *E. sclateri*) that it is apparently distinct.

A specimen of the female of this bird in the Derby Museum at Liverpool bears the label "*Tanagra flavifrons*, Latham;" and as Latham's description and Sparman's figure agree sufficiently well with it, and this specimen is probably the type of Latham's description, I feel bound to employ the term *flavifrons* as the first-given appellation of this *Euphonia*.

3. EUPHONIA NIGRICOLLIS.

Pipra cyanocephala, Vieill. N. D. d'H. N. xix. p. 165 (♀) ?

Tanagra nigricollis, Vieill. N. D. d'H. N. xxxii. p. 412; Enc. Méth. p. 782.

Lindo azul y oro, Azar. Pax. i. p. 390 (unde),

Tanagra aureata, Vieill. Enc. Méth. p. 782.

Tanagra chrysogastra, Cuv. Règn. An. i. p. 366.

Euphonia nigricollis, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 30; Sclater, Contr. Orn. 1851, p. 83. pl. 75. fig. 1.

Euphonia aureata, d'Orb. Voy. p. 267; Gray, Gen. p. 367. sp. 9; Bp. Consp. p. 233.

Cyanophonia aureata, Bp. R. Z. 1851, p. 138; Note s. l. Tang. p. 13.

Purpurascenti-nigra : pileo cæruleo : fronte et gula nigris : uropygio et abdomine toto aureo-flavis.

♀. *Olivaceo-viridis*, subtus flavescens : pileo cæruleo : fronte castanea.

Long. tota 4·3, alæ 2·6, caudæ 1·5.

Hab. Trinidad ; Venezuela, Caraccas (*Levraud*) ; New Grenada, Bogota ; Western Ecuador, vic. of Quito (*Jameson*) ; Brazil, Rio (*P. Max.*) ; Paraguay (*Azara*) ; Rincon de Luna et Corrientes (*d'Orb.*).

Mus. Brit., Paris., &c.

4. EUPHONIA ELEGANTISSIMA.

Pipra elegantissima, Bp. P. Z. S. 1837, p. 112.

Euphonia cælestis, Less. R. Z. 1839, p. 42.

Pipra galericulata, Giraud, B. Texas, no. 10. pl. 5. fig. 2 (1840).

Euphonia elegantissima, Gray, Gen. App. p. 17; Bp. Consp. p. 232; DuBus, Esq. Orn. pl. 8; Baird, in Stansbury's Exp. to Utah, p. 330; Sclater, Contr. Orn. 1851, p. 83.

Euphonia tibicen, Licht. in Mus. Berol.

Purpurascenti-nigra: pileo cæruleo: fronte saturate castanea postice nigro marginata: gula nigra: abdomine flavescente-fulvo.

♀. *Olivaceo-viridis*, subtus flavescens: pileo cæruleo: fronte castanea, nigrescente postice marginata.

Long. tota 4·3, alæ 2·6, caudæ 1·6.

Hab. Guatimala (Bp.); S. Mexico, Oaxaca (DuBus), Xalapa (Mus. Berol.), Cordova (Sallé); Texas (Giraud and Baird).

Mus. Brit., Berolin., &c.

b. *Euphonia*.

5. EUPHONIA CHLOROTICA.

Tang. cayennensis nigro-lutea, Briss. Orn. iii. 34.

Tang. de Cayenne, Buff. Pl. Enl. 114. fig. 1.

Tanagra chlorotica, Linn. S. N. i. 317; Vieill. Enc. Méth. p. 782.

Tanagra violacea, var. β. *chlorotica*, Gm. S. N. i. 890.

Euphone chlorotique, Desm. Tan. pl. 24, 25.

Euphonia chlorotica, Licht. Verz. Doubl. p. 29; Gray, Gen. p. 367. sp. 5; Bp. Consp. p. 232; Sund. Vet. Ac. Sv. 1833, pl. 10. figs. 2 & 3; Sclater, Cont. Orn. 1851, p. 84; Bp. R. Z. 1851, p. 136, et Note s. l. Tang. p. 10.

Golden Tanager, var. α, Lath. G. H. vi. p. 28.

♂. *Atrō-nitens*; capite, gutture et dorso superiore violaceo-purpurascens: pilei dimidio antico usque ad angulum oculi extremum et abdomine toto aureis: macula magna ovali in pogonio interno rectricum duarum utrinque extimarum et alis subtus albis.

♀. *Olivascens*: alis caudaque intus fuscis: subtus flavescens.

Long. tota 3·4, alæ 2·1, caudæ 1·2.

Hab. Cayenne.

Mus. Brit.

In this *Euphonia* the lores and nasal feathers are black, and the yellow on the head reaches up to a straight line between the farther corners of the eyes.

6. EUPHONIA SERRIROSTRIS.

Euphonia serrirostris, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 30; d'Orb. Voy. p. 267. pl. 23. fig. 2; Gray, Gen. p. 367; Bp. Consp. p. 233; Sclater, Contr. Orn. 1851, p. 90 (♀).

Euphonia chlorotica, Tsch. Av. Consp. in Wiegmann. Arch. 1844, p. 284, et F. P. p. 197?

Similis E. chloroticæ ex Cayenna, sed forsā distincta: major: nucha intensius violacea et rostro magis serrato: hujus basi quoque albescente.

Long. tota 4·4, alæ 2·25, caudæ 1·5.

- ♀. (E. *SERRIROSTRIS*, Lafr. et d'Orb.!) *Supra flavo-olivacea: subtus flavescens: pectore et ventre mediis cinerascens.*
Hab. Bolivia, Guarayos (d'Orb.); Eastern Peru (Tsch.)?
Mus. Lafresnayano, Brit.

The *Euphonia serrirostris* figured by d'Orbigny seems to be nothing more than the female of a species very closely allied to the *Euphonia chlorotica*. As however I think it possibly distinct from the *E. chlorotica* of Cayenne, MM. Lafresnaye and d'Orbigny's name can be retained for the Bolivian bird, until further examination of a series of specimens can be made—by which means only the question of their identity can be determined.

7. EUPHONIA TRINITATIS.

Euphonia trinitatis, Strickl. Cont. Orn. 1851, p. 72; Sclater, Cont. Orn. 1851, p. 84.

- ♂. *Atro-nitens sed magis viridescens quam E. chlorotica: capite et gutture purpureo tinctis: fronte angusta nigra: pileo supero toto postice rotundato et abdomine aureis: macula magna ovali in pogonio interno rectricum duarum utrinque extimarum et alis subtus albis.*

♀. *Supra olivascens: subtus flava.*
 Long. tota 3·9, alæ 2·2, caudæ 1·3.
Hab. Trinidad.
Mus. P. L. S.

I have seen a good many examples of this Trinidad species, which appears correctly separable from the Cayenne bird.

8. EUPHONIA AFFINIS.

Tanagra (Euphonia) affinis, Less. R. Z. 1842, p. 175.
Euphonia affinis, Gray, Gen. p. 367. sp. 20; Bp. Consp. p. 233.

- ♂. *Atro-nitens: capite et gutture purpureo tinctis: fronte angusta nigra: pilei dimidio antico usque ad angulum oculorum extremum et abdomine toto limonaceo-flavis: macula magna in pogonio externo rectricum duarum utrinque extimarum et alis subtus albis.*

♀. *Supra olivascens, pileo postico et dorso superiore cinereo tinctis: subtus flavescens, abdomine medio clariore.*
 Long. tota 3·0, alæ 2·1, caudæ 1·3.

Hab. S. Mexico, Orizaba (*Botteri*); Guatemala; Realejo, Central America (*Less.*).

Mus. P. L. S.

In the amount of yellow on the head, and general appearance, this species comes very near the true *chlorotica*. But it may be recognized by the paler tinge of the yellow and the absence of the violaceous colouring upon the back.

9. EUPHONIA MINUTA.

Euphonia olivacea, Desm. Tan. pl. 27; Gray, Gen. p. 367. sp. 2; Bp. Consp. p. 232 (♀)?
Tanagra olivacea, Vieill. Enc. Méth. p. 782.

Euphonia minuta, Cab. in Schomb. Reise, iii. p. 671; Selater, Tan. Cat. Sp. p. 14 (♀).

Euphonia strictifrons, Strickl. Contr. Orn. 1851, p. 72; Selater, Contr. Orn. 1851, p. 84.

Euphonia pumila, Bp. R. Z. 1851, p. 136; Note s. l. Tang. p. 10.

Euphonia leucopyga, Natt. in Mus. Vindob.

Atrō-nitens; dorso viridescētiore, capite et gutture purpurascētiōribus: fronte lata et abdomine aureis: crisso, tibiis et rectricum trium utrinque extimarum pogonio interno fere toto cum tectricibus alarum inferioribus albis.

♀. Supra olivacea: subtus flavescens, abdomine medio grisescente.

Long. tota 3·4, alæ 1·9, caudæ 1·0.

Hab. Cayenne; Brit. Guiana (*Schomb.*); Barra do Rio Negro (*Natt.*); New Grenada, Bogota.

Mus. Brit., Vindob.

This species is very easily distinguished among its close affines by the narrow yellow head-band and white crissum.

I have seen the type of Cabanis' *E. minuta*, and have no doubt it is the female of this bird, the male of which was afterwards named by Prince Bonaparte and Mr. Strickland almost simultaneously.

I have little doubt that Desmarest's *Euphonia olivacea* is also the female of this bird, but the name is hardly sufficiently applicable to warrant its adoption.

10. EUPHONIA CONCINNA.

Euphonia concinna, Selater, P. Z. S. 1854, p. 98. pl. 85. fig. 2, et 1855, p. 159; Tan. Cat. Sp. App. p. 16.

Euphonia hirundinacea, Bp. R. Z. 1851, p. 156; Note s. l. Tang. p. 10?

Supra nigro-violacea: vertice summa flava, fronte et linea supra oculos nigris: gutture violaceo-nigro: abdomine aurantiaco: cauda subtus immaculate nigra.

Long. tota 3·8, alæ 2·2, caudæ 1·4.

Hab. New Grenada, Bogota.

Mus. P. L. S.

11. EUPHONIA XANTHOGASTRA.

Euphonia xanthogastra, Sund. Vet. Ac. Handl. 1833, pl. 10. fig. 1; Gray, Gen. p. 367. sp. 22; Bp. Consp. p. 233; Selater, Contr. Orn. 1851, p. 85; P. Z. S. 1854, p. 115, et 1855, p. 159.

Euphonia brevirostris, Bp. R. Z. 1851, p. 156, et Note s. l. Tang. p. 10.

Nitente-cærulescenti-nigra, cervice postica violacea: gutture nigro: pileo supero toto postice rotundato cum fronte et narium plumis et abdomine aurantiaco-flavis: macula in rectricis unæ utrinque extimæ pogonio interno et tectricibus subalaribus albis.

Long. tota 4·0, alæ 2·4, caudæ 1·3.

Hab. Southern Brazil; Ecuador, prov. Quixos; New Grenada, Bogota.

Mus. Brit.

I can find no difference between the Brazilian bird and the Bogota specimens (*E. brevirostris*) sufficient to warrant their separation.

12. EUPHONIA RUFICEPS.

Euphonia ruficeps, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 30; d'Orb. Voy. p. 268. pl. 22. fig. 2; Gray, Gen. p. 367. sp. 18; Bp. Consp. p. 232; R. Z. 1851, p. 136; Note s. l. Tang. p. 10; Sclater, Contr. Orn. 1851, p. 85.

Nitenti-cærulescenti-niger, cervice postica intense violacea: gutture nigro: pileo summo cum fronte castaneis: abdomine aureo medialiter aurantiaco: macula in pogonio externo rectricis unae utrinque extimæ et tectricibus subalaribus albis.

Long. tota 4·0, alæ 2·4, caudæ 1·2.

Hab. Bolivia, Yuracares (*d'Orb.*); Venezuela, Caraccas (*Levraud*).

Mus. Parisiensi, Lafresnayano, Derbiano.

A bird in the collection lately transmitted to the Paris Museum by M. Levraud from Caraccas, differs from the true Bolivian *ruficeps* only in having rather more chestnut colouring on the head, and that of a lighter and more orange-coloured tinge. I should be unwilling to separate it specifically without seeing more specimens.

13. EUPHONIA FULVICRISSA, sp. nov.

Supra nitenti-æneo-nigra, pileo postice rotundato flavo: gutture toto cum cervice versus ventrem in semicirculum terminata æneo-nigris: abdomine aureo, medialiter aurantiaco: crisso fulvo: rectricis unae utrinque extimæ macula in pogonio externo et tectricibus subalaribus albis; his flavescente tinctis.

Long. tota 3·7, alæ 2·0, caudæ 1·2.

Hab. S. Martha in New Grenada.

I possess a single specimen of this *Euphonia* which was received by MM. Verreaux from their collector at S. Martha. It appears to me to constitute a new species of this genus, distinguished by the way in which the black throat is produced towards the breast and rounded at its termination, and the peculiar colour of the crissum.

14. EUPHONIA CHALYBEA.

Tanager chalybea, Mikan, Faun. et Flor. Bras. pl. 3. fig. 1 ♂, 2 ♀.

Euphone ænea, Sund. Vet. Ac. Sv. 1834, p. 309. pl. 11. fig. 4; Less. Descr. d. Mamm. et Ois. p. 348.

Euphonia ænea, Gray, Gen. p. 367. sp. 21; Bp. Consp. p. 233; R. Z. 1851, p. 136; Note s. l. Tang. p. 11.

Euphonia pardalates, Less. Echo d. M. S. 1844.

Euphonia chalybea, Sclater, Contr. Orn. 1851, p. 85.

"*Euphonia pyrroluloides*, Natt.," Gray, Gen. App. p. 16.

Euphonia chloritica, Licht. in Mus. Berol.

Corpore supero cum gula summa intense æneis: vitta frontali et abdomine toto flavis, rostro crasso.

♀. *Olivacea* : *subtus grisea, lateribus et ventre imo crissoque flavescenti-olivaceis.*

Long. tota 5·0, alæ 2·6, caudæ 1·6.

Hab. Southern Brazil, Rio Grande do Sul (*Plant*).

Mus. Brit., Paris.

15. EUPHONIA VIOLACEA.

Tang. brasiliensis nigro-lutea, Briss. Orn. iii. p. 31.

Tanagra violacea, Linn. S. N. p. 315 ; Vieill. Enc. Méth. p. 783 ; Max. Beitr. iii. p. 441.

Tang. de Brésil, Buff. Pl. Enl. 114. fig. 2.

Le Teité, Buff. H. N. iv. 295 (partim).

Euphonia violacea, Gray, Gen. p. 267. sp. 3 ; Schomb. Reise, iii. 671 ; Bp. Consp. p. 232 ; Sclater, Contr. Orn. 1851, p. 86 ; Bp. R. Z. 1851, p. 136 ; Note s. l. Tang. p. 10.

Euphone teité, Desm. Tan. pl. 21. 22. 23 (?).

Golden Tanager, Lath. G. H. vi. 27.

Nitenti-cæruleo-nigra ; *cervice postica violaceo tincta* : *fronte tota et pileo antico a mediis oculis cum corpore subtus aureis* ; *rect. 2 aut 3 extimis in pogonio interno albo maculatis.*

♀. *Olivacea, subtus dilutior, medialiter flavescens.*

Long. tota 4·0, alæ 2·3, caudæ 1·3.

Hab. Trinidad ; Cayenne ; Brit. Guiana (*Schomb.*) ; South-eastern Brazil (*P. Max.*) ; Southern Brazil.

Mus. Brit., &c.

16. EUPHONIA LANIROSTRIS.

Euphonia laniirostris, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 30 ; d'Orb. Voy. p. 266. pl. 23. fig. 1 ; Gray, Gen. p. 367. sp. 17 ; Bp. Consp. p. 223 ; Rev. Zool. 1851, p. 136 ; Note s. l. Tang. p. 10.

Major : *nigro-violaceo-nitens* : *pileo summo postice rotundato et corpore subtus aureo-flavis* : *rostro maximo, crassissimo.*

♀. *Viridescenti-olivacea, uropygio flavescentiore* : *subtus flavescenti-viridescens.*

Hab. Bolivia, prov. Yungas Guarayos and S. Cruz de la Sierra (*d'Orb.*).

Mus. Parisiensi, Lafresnayano.

17. EUPHONIA CRASSIROSTRIS, sp. nov.

Euphonia fortirostris, Lafr. in Mus. suo ?

Nitenti-cæruleo-nigra, nucha vix violaceo tincta : *pileo summo postice rotundato flavo* : *linea angusta supra oculos et narium plumis nigris* : *subtus læte flava* : *rectricum duarum utrinque extimarum macula longa in pogonio interno et tectricibus subalaribus albis* : *rostro forti, crasso.*

♀. *Olivacea, subtus flava, lateribus olivascentibus.*

Long. tota 4·1, alæ 2·6, caudæ 1·6.

Hab. New Grenada, Bogota.

I had formerly thought this Bogota bird might be the same as the Central American *E. hirundinacea*, but I have lately obtained other specimens, and find that such is not the case. The upper colouring of this bird is not of the peculiar green shade which exists in the true *hirundinacea*, and the yellow head, instead of being confined to the frontal half and terminated by a straight line, extends further back and is posteriorly rounded. The bill of this bird is also thicker, broader and stronger, and shows more approach to the true Bolivian *laniirostris*.

I am not now certain whether it is this species or the *hirundinacea* to which the Baron de la Fresnaye has given the MS. name *fortirostris*.

18. EUPHONIA HIRUNDINACEA.

Euphonia hirundinacea, Bp. P. Z. S. 1837, p. 117; Gray, Gen. p. 367. sp. 4; Bp. Consp. p. 232; Sclater, P. Z. S. 1854, p. 98. pl. 85. fig. 1 (*fig. mala*).

Euphonia laniirostris, Sclater, Contr. Orn. 1851, p. 86.

Viridescenti-cæneo-nigra, cervice postica cærulescentiore: pileo a fronte ad initium oculorum et corpore subtus flavis, macula in ventre imo alba: rectricum duarum utrinque extimarum macula oblonga in pogonio interno et tectricibus subalaribus albis.

Long. tota 4·2, alæ 2·5, caudæ 1·3.

Hab. Guatimala (*Bp. et Constancia*); S. Mexico, Cordova (*Sallé*).

I had not very good specimens of this bird when I described it in P. Z. S. for 1854, and the figure there given would suit better my *Euphonia crassirostris*. M. Sallé, however, has lately brought some beautifully prepared skins from Southern Mexico, which have enabled me to determine the species more satisfactorily.

I have seen specimens in which the white belly-spot, which is perhaps produced by abrasion of the feathers in the most adult birds, was scarcely apparent.

19. EUPHONIA MELANURA.

Euphonia melanura, Sclater, Contr. Orn. 1851, p. 86; P. Z. S. 1855, p. 159.

Nitenti-violaceo-nigra: pileo summo cum fronte et corpore subtus aureis: rectricibus immaculate nigris.

Long. tota 4·0, alæ 2·3, caudæ 1·3.

Hab. Barra do Rio Negro (*Wallace*); New Grenada, Bogota?

The Bogota birds have the bill rather stronger and the yellow on the head more extended than the specimens from the Amazons.

c. *Iliolopha*.

20. EUPHONIA CAYANA.

Tang. cayanaensis nigra, Briss. Orn. iii. 219.

Tang. de Cayenne, Buff. Pl. Enl. 114. fig. 3.

Tang. négre, Buff. H. N. iv. 297.

Tanagra cayana, Linn. S. N. i. p. 14.

Tanagra cayennensis, Gm. S. N. ii. 894.

Euphonia cayennensis, Gray, Gen. p. 367. sp. 6; Schomb. Reise, iii. 671.

Euphonia cayana, Bp. Consp. p. 233; R. Z. 1851, p. 135; Note s. l. Tang. p. 10; Selater, Contr. Orn. 1851, p. 88.

Euphone nègre, Desm. Tan. pl. 26.

Atro-violaceo-nitens: *macula magna utrinque pectorali late flava*.

Long. tota 4·0, alæ 2·5, caudæ 1·3.

Hab. Cayenne; Brit. Guiana (*Schomb.*); Lower Amazon (*Wallace*).

21. EUPHONIA RUFIVENTRIS.

Tanagra rufiventris, Vieill. N. D. d'H. N. xxxii. p. 426; Enc. Méth. p. 781; Gal. Ois. Supp. pl. 24.

Euphonia rufiventris, Gray, Gen. p. 367. sp. 12; Bp. Consp. p. 233; R. Z. 1851, p. 135; Note s. l. Tang. p. 10; Selater, Contr. Orn. 1851, p. 87; Cassin, Rep. U.S. Astr. Exp. ii. p. 182. pl. xx. fig. 1.

Euphonia bicolor, Strickl. Contr. Orn. 1850, p. 48. pl. 49. fig. 2.

"*Tanagra chrysogaster*, Cuv.," Less. Tr. d'Orn. p. 461.

Atro-nitens: *abdomine toto rubrescenti-aurantio, lateraliter flavescentiore*.

♀. *Olivaceo-viridis; subtus medialiter cinerea, lateraliter flavescenti-olivacea*.

Long. tota 4·5, alæ 2·4, caudæ 1·4.

Hab. Eastern Peru, prov. Maynas (*Pöppig*); r. Ucayali (*Hawswell*); Rio Negro, Barcellos et S. Carlos (*Natterer*).

Mus. Brit., Derbiano, Vindob. et Lipsiensis.

22. EUPHONIA PECTORALIS.

Pipra pectoralis, Latb. Ind. Orn. Supp. p. 57.

Euphonia castaneiventris, Vieill. Gal. Ois. Supp. pl. .

Tanagra rufiventris, Licht. Doubl. p. 30; Max. Beitr. iii. 447.

Tanagra chlorocyanea, Vieill. N. D. d'H. N. xxxii. p. 427; Puch. Arch. Mus. vii. p. 355.

Euphonia pectoralis, Gray, Gen. p. 367. sp. 7; Bp. Consp. p. 233; R. Z. 1851, p. 135; Note s. l. Tang. p. 10; Selater, Cont. Orn. 1851, p. 87.

Euphonia umbilicalis, Less. Tr. d'Orn. p. (♀); Bp. Consp. p. 233; R. Z. 1851, p. 400, et Note s. l. Tang. p. 11.

Atro-violaceo-nitens: *plaga utrinque pectorali flava: ventre toto saturate castaneo: tectricibus subalaribus albis*.

♀. *Olivacea: pileo postico griseo: subtus flavo-olivacea: pectore et cervice cinereis: crisso castaneo*.

Long. tota 4·0, alæ 2·5, caudæ 1·5.

Hab. S.E. Brazil (*Max.*); Goyaz (*Cast. et Dev.*).

Mus. Brit., Parisiensis.

d. *Pyrrhuphonia*.

23. EUPHONIA JAMAICENSIS.

Fringilla jamaicensis, Briss. Orn. iii. 166.

Grey Grosbeak, Brown, Illustr. pl. 26.

Fringilla jamaica, Linn. S. N. i. p. 323.

Euphonia jamaica, Gray, Gen. App. p. 17; Gosse, B. Jan. p. 238; Ill. Orn. Jam. pl. 59 ♂ et ♀; Bp. Consp. p. 233; Sclater, Contr. Orn. 1851, p. 91.

Pyrrhuphonia jamaica, Bp. R. Z. 1851, p. 157; Note s. l. Tang. p. 11.

Euphonia cinerea, Lafr. R. Z. 1846, p. 277; Bp. Consp. p. 235; Gray, Gen. App. p. 17.

Banana Finch, Lath. G. H. vi. 125.

Cærulescenti-grisea: *subtus dilutior, ventre flavo, crisso albido.*

♀. *Mari similis, sed uropygio virescente, ventre non flavo.*

Long. tota 4·3, alæ 2·5, caudæ 1·5.

Hab. Jamaica (*Gosse*).

Mus. Brit.

24. EUPHONIA PLUMBEA.

Euphonia poliocephala, Natt. in Mus. Vindob.

Euphonia plumbea, DuBus, Bull. Acad. Brux. xxii. p. 156.

Griseo-plumbea, viridi micans: *ventre et crisso flavissimis.*

♀. *Grisea, olivacco tincta*: *gula grisea*: *ventre flavescentiore*: *crassitie E. minutæ.*

Hab. Rio Negro (*Natt.*).

Mus. Vindob.

There are specimens of both sexes of this somewhat abnormally coloured *Euphonia* in the Vienna Museum, collected by Natterer on the Rio Negro, and numbered 967 in his collection.

GENERUM TANAGRINORUM

DISTRIBUTIONIS GEOGRAPHICÆ

SCHEMA.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	Total number of Species.
	North America.	Mexico and Central America.	Antilles.	New Grenada (Bogota).	Transandean Ecuador (Quito).	Eastern Peru.	Western Littoral of Peru.	Interior of Bolivia.	Paraguay, Uruguay & S. Brazil.	Littoral of Brazil.	Guiana and Cayenne.	Venezuela and Littoral of New Grenada.	Trinidad.	
1. Pitylus.....	...	2	...	1	...	1	...	...	...	2	3	...	...	7
2. Orchesticus.....	1	...	1	...	1	1	3	1	1	1	3
3. Schistochlamys	1	...	...	...	1	...	...	...	2
4. Saltator	3	2	3	...	2	...	5	6	4	2	2	3	21
5. Psittospiza	1	1	1	...	...	...	...	...	...	...	1
6. Lamprospiza	1	...	...	1
7. Cissopsis	1	...	1	...	1	1	1	1	...	...	3
8. Oreothraupis	1	...	...	...	...	...	...	...	...	1
9. Arremon	1	...	2	1	1	...	1	2	3	1	1	...	12
10. Phœnicophilus	1	...	...	...	...	...	...	...	...	...	...	1
11. Buarremon	3	...	6	2	2	...	3	...	...	1	3	...	17
12. Chlorospingus.....	...	2	...	11	...	...	...	1	...	...	...	1	1	15
13. Pyrrhocomma	1	...	...	...	...	1
14. Nemosia	2	...	3	...	3	2	4	3	2	1	11
15. Cypsnagra	1	...	1	...	...	...	1
16. Tachyphonus	5	...	4	...	1	2	2	3	2	2	10
17. Trichothraupis	1	1	...	...	...	1
18. Eucometis	1	...	...	1	1	...	3
19. Lanio	1	...	1	...	...	...	1	...	...	1	...	...	3
20. Phœnicothraupis...	...	1	...	1	...	...	...	1	1	1	...	1	1	4
21. Lamprotes	1	...	...	...	...	...	1	...	...	...	2
22. Orthogonys.....	1	1	...	...	2
23. Pyrranga	3	7	2	4	...	2	...	1	1	1	1	2	1	10
24. Ramphocelus	4	...	5	...	3	...	1	...	3	1	2	1	16
25. Spindalis	3	...	...	...	...	...	...	...	...	...	...	3
26. Tanagra	2	...	4	1	3	2	4	2	4	3	3	2	13
27. Dubusia	1	1	...	...	...	...	...	...	...	...	2
28. Compsocoma	1	2	1	...	1	...	...	...	...	...	4
29. Buthraupis	2	2	...	...	1	...	...	...	...	...	4
30. Pœcilothraupis	2	1	...	1	1	...	...	...	...	...	3
31. Iridornis	1	1	...	1	...	...	...	...	...	...	3
32. Calliste	3	...	17	6	12	...	7	3	9	7	8	3	51
33. Diva	1	...	...	...	...	...	...	...	...	...	1
34. Pipridea	1	1	1	...	1	...	3
35. Chlorochrysa	1	2	1	...	...	...	...	...	...	...	2
36. Tanagrella	1	...	1	...	...	...	1	1	1	...	4
37. Glossiptila	1	...	...	...	...	...	...	...	...	...	...	1
38. Chlorophonia	1	...	2	...	1	...	...	...	1	...	1	...	5
39. Euphonia	3	3	6	1	4	...	3	1	4	5	3	3	24
40. Stephanophorus	1	...	...	...	1
	3	33	12	84	22	45	4	40	25	50	37	35	19	272

6. ON THE SPECIES OF THE AMERICAN GENUS *PARRA*.
 BY PHILIP LUTLEY SCLATER, M.A., F.Z.S.

The American birds of the genus *Parra*, together with their representatives in the Tropics of the Old World belonging to the genera *Metopidius*, *Hydralector* and *Hydrophasianus*, constitute a very natural group, allied in many respects to the *Rallidæ*, but remarkable for the extreme elongation of the toes—a formation beautifully adapted for enabling them to walk upon the floating leaves of the numerous water-plants of these countries.

MM. Verreaux of Paris have kindly furnished me from their well-stored magazines with a series of specimens of *Parra*, which enabled me to point out to the Society the distinctions between all the hitherto known species of this genus, and to indicate one certainly new, and a second, which although not so obviously distinct, has some claim to be recognized as an intermediate species.

A. *Species caruncula frontali bilobata et caruncula rictali utrinque præditæ.*

1. *PARRA JACANA.*

Parra jacana et variabilis, Linn. et Gm.

Parra nigra et brasiliensis, Gm.

Parra jacana, Max. Beitr. iv. 786.

Parra jassana, Schomb. Reise, iii. 759.

Jacana du Mexique, Buff. Pl. Enl. 322 (adult).

Jacana du Brésil, Buff. Pl. Enl. 846 (juv.).

Capite toto cum cervice supra et corpore infra nigris : dorso, alis caudaque clare castaneis : tectricibus caudæ superioribus purpurascente tinctis : remigibus flavescenti-viridibus, nigro extus partim marginatis : hypochondriis et tectricibus subalaribus intense castaneis.

Hab. South-eastern Brazil (*P. Max.*); British Guiana (*Schomb.*); Cayenne; ins. Trinidad.

The examples of this bird which I have seen from Guiana and Cayenne appear to be considerably inferior in size to the Brazilian specimen, but I am not yet certain how far this may be due to sexual differences.

2. *PARRA INTERMEDIA*, sp. nov.?

“*Parra intermedia*, Bp.,” J. et E. Verreaux, MS.

Capite toto cum cervice supra et corpore infra nigris : dorso, alis caudaque obscurius castaneis, purpurascente paululum tinctis : hypochondriis et tectricibus subalaribus brunnescenti-castaneis : remigibus flavescenti-viridibus, nigro extus partim marginatis.

Hab. Venezuela (*Verreaux*).

This bird is hardly distinguishable from the *P. jacana*, except by the browner and more purplish tinge of the back, in which respect it seems intermediate between that species and *P. melanopygia*.

I should hardly have ventured to separate it specifically on my own authority; but, as the MS. name has attained circulation, I think it right to point out the apparent differences.

3. *PARRA MELANOPYGIA*, sp. nov.

Capite toto cum cervice supera et corpore infra nigris : interscapulio, alis caudaque purpurascanti-brunneis : dorso imo et tectricibus caudæ superioribus nigris : hypochondriis et tectricibus subalaribus nigris : remigibus flavescanti-viridibus, nigro extus partim marginatis.

Hab. S. Martha in New Grenada (*Verreaux*).

MM. Verreaux's specimens of this bird are labelled *P. hypomelæna*, but that name is properly applicable to the next species.

4. *PARRA HYPOMELÆNA*.

Parra hypomelæna, Gray & Mitch. Gen. of B. pl. 159.

Nigra : alis fusco-nigris purpurascante tinctis : remigibus flavescanti-viridibus, nigro extus partim marginatis.

Hab. New Grenada, S. Martha (*Verreaux*); Bogota (*Mus. Brit.*); Cartagena (*Mus. Paris.*); Chiriqui, Panama (*Bridges*).

B. Species caruncula frontali trilobata : carunculis rictalibus nullis.

5. *PARRA GYMNOSTOMA*.

Parra gymnostoma, Wagl. Isis, 1831, p. 517.

Parra cordifera, Less. R. Z. 1842, p. 135; Desmurs, Icon. Orn. pl. 42.

Capite toto cum cervice supera et infra ad medium pectus nigris, æneo micantibus : dorso toto alisque castaneis : uropygio purpurascante : abdomine purpurascanti-brunneo : remigibus flavescanti-viridibus, nigro marginatis.

Hab. Southern Mexico; Mazatlan (*Mus. Brit.*); Acapulco (*A. Lesson*); New Grenada, S. Martha (*Verreaux*); Honduras (*Dyson*).

Wagler's accurate diagnosis of this bird has been generally passed over, and Lesson's more recent appellation is generally employed for this species.

7. CATALOGUE OF THE BIRDS COLLECTED BY M. AUGUSTE SALLÉ IN SOUTHERN MEXICO, WITH DESCRIPTIONS OF NEW SPECIES. BY PHILIP LUTLEY SCLATER, M.A., F.Z.S., ETC.

(Aves, Pl. CXX., CXXI.)

M. Auguste Sallé, one of the most active and successful of the present generation of travelling Naturalists—on his recent return to Europe from Southern Mexico, brought with him a very fine collection of birds obtained principally near the town of Cordova in the State of Vera Cruz, and partially also in the vicinity of the peak of

Orizaba in the State of La Puebla. When in Paris a short time since, I had the pleasure of looking through this collection in company with Prince Charles Lucien Bonaparte; and at his request, and that of M. Sallé, who offered to place a series of the birds in my hands for that purpose, agreed to endeavour to make a complete catalogue of the species. Although I have not been able to devote all the time I could have wished to this object, I have succeeded in ascertaining, without much doubt, the names of the greater part of the known species; while there are fourteen or fifteen birds in the collection which may be considered as probably unknown to science, and for which I have accordingly proposed new specific appellations. It is quite likely that some of these may have been already named by the American Naturalists, who have recently done so much to extend our knowledge of the Fauna of the northern portion of the New World; but I have been unable to find any notice of them in the publications of the Scientific Societies of the United States or other works, as far as they have been received in this country up to the present time.

Although we have a pretty good general knowledge of Mexican Ornithology—many collections having been made in that country—there has been, as far as I am aware, no attempt made to form any detailed account of the birds inhabiting it, except Mr. Swainson's imperfect Synopsis published in the Philosophical Magazine in 1827, and Wagler's paper on Mexican Animals in the Isis for 1831; and the notices of more recently discovered species are scattered at random through the scientific publications of England, France, Germany and America, to the great perplexity of the naturalist. So I may hope that the present list of 233 species found by M. Sallé in Southern Mexico, will be of some use as an Index to the Ornithology of that country as far as it goes, and form a foundation on which a more perfect work on the same subject may some day be raised.

I may remark, that there are examples of many well-known South American forms in the present collection (such as *Nyctidromus*, *Pipra*, *Anabates* and *Formicarius*) which have not hitherto been noticed so far north; the zoology of the hot eastern sea-board, which M. Sallé explored, being, as might have been expected, much more tropical in its character than that of the high table-land of the interior, whence most Mexican collections have hitherto been brought.

The occurrence of the examples of the purely Boreal types *Certhia* and *Parus* so far south (below the parallel of 19° N. L.), is also, I believe, hitherto unrecorded.

A notice of these collections of birds by Prince Bonaparte will be found in the Comptes Rendus of the French Academy of Natural Sciences for the month of May of this year, and some of the new species are there shortly indicated.

ACCIPITRES.

1. TINNUNCULUS SPARVERIUS (Linn.).

Sallé, no. 8. Cordova.

2. *HYPOTRIORCHIS FEMORALIS* (Temm.).—Pl. Col. 121 et 343. Sallé, no. 11. Vera Cruz. *Hypotriorchis aurantius*, Heerman, Pr. Ac. Phil. vii. 177. Observed by Dr. Heerman in New Mexico.

3. *ASTURINA MAGNIROSTRIS* (Gm.).

Sallé, no. 5.

4. *MICRASTUR CONCENTRICUS* (Less.).

Sallé, no. 7.

5. *GERANOSPIZA GRACILIS* (Temm.).

Sallé, no. 9. Cordova.

6. *ICTINIA PLUMBEA* (Gm.).

Sallé, no. 6. Cordova.

7. *BUTEO INSIGNATUS*, Cassin, B. Cal. pp. 102 et 198. pl. 31.

Sallé, no. 7.

Both Prince Bonaparte and M. Jules Verreaux (who are well acquainted with *Accipitres*) agree in considering a single specimen obtained by M. Sallé as referable to this curious species. It appears to agree sufficiently with Mr. Cassin's description and figure of the male bird of *B. insignatus*.

8. *SYRNIUM VIRGATUM*, Cassin, Pr. Ac. Sc. Phil. 18. iv. p. 124; Journ. Ac. Phil. iv. pl. ii. pl. 3.—*Syrnium squamulatum*, Bp. Consp. p. 53.—*Syrnium zonocercus*, G. R. Gray, List Accipitr. p. 103.—*Macabra squamulata*, Bp. MS.

Sallé, no. 3. Cordova.

9. *ATHENE INFUSCATA* (Temm.), Strickl. Orn. Syn. p. 163.

Sallé, no. 4. Cordova. These examples seem to agree with South American specimens.

CAPRIMULGIDÆ.

10. *NYCTIDROMUS AMERICANUS* (Linn.), Cassin, Pr. Ac. Sc. Phil. v. 180.—*N. derbianus*, Gould.

Does not seem different from South American examples.

Sallé, no. 10, ♂ et ♀. Cordova.

HIRUNDINIDÆ.

11. *COTYLE SERRIPENNIS* (Aud.).—*Hirundo serripennis*, Aud. Orn. Biog. iv. p. 593: B. Am. Svo. i. pl. 51.

Sallé, no. 137, ♂ et ♀. Cordova.

MOMOTIDÆ.

12. *MOMOTUS LESSONI* (Less.).—*M. brasiliensis*, Cassin, Pr. Ac. Phil. iv. 89?

Sallé, no. 48. Cordova.

The specimens of this northern representative of *M. brasiliensis* show some variation. M. Sallé's example has a smaller bill, less black on the head, and less rufous tinge on the breast than a Guatemalan bird, which I refer to the same species.

ALCEDINIDÆ.

13. CERYLE AMERICANA (Gm.), Cassin, B. Cal. i. p. 255; P. Z. S. 1855, p. 136.

Sallé, no. 68. Cordova.

TROGONIDÆ.

14. TROGON CALIGATUS, Gould, Mon. Trogon. pl. 7.

Sallé, no. 71, ♂ et ♀. Cordova.

15. TROGON PUELLA, Gould, P. Z. S. 1845, p. 18.—*Trogon xalapensis*, DuBus, Esq. Orn. pl. 5.

Sallé, no. 69. Cordova, ♂ et ♀.

16. TROGON AURANTIVENTRIS, Gould, P. Z. S. 1856 (May 13th), p. 107.—*Trogon salléi*, Bp. Compt. Rend. May 1856.

Sallé, no. 70. Cordova.

CÆREBIDÆ.

17. CÆREBA CYANEA (Linn.), v. P. Z. S. 1856, p. 140.

Sallé, no. 113. Cordova. Seems to agree quite sufficiently with South American species.

18. CÆRTHIOLA MEXICANA, sp. nov.?

Nigricanti-fusca: capite, alis caudaque nigris: superciliis et speculo alari albis: uropygio flavicante: gutture cinereo: abdomine flavo; crisso albidiore: rectricibus extimis albo terminatis.

Long. tota 3·8, alæ 2·1, caudæ 1·2.

Sallé, no. 114. Some of the various local races of *Certhiola flavicola* certainly show such differences as entitle them to specific separation. The present bird does not appear to be quite the same as any of the nine given by Prince Bonaparte in his 'Notes Orn.' p. 51. It is very closely allied to the Bogota species, which I believe to be the *C. luteola*, Cab., but may be distinguished by its duller back, less brightly-coloured uropygium and belly, longer bill and shorter wings.

19. DIGLOSSA BARITULA, Wagl. Isis, 1832, p. 281; Gray, Gen. B. pl. 42.

Sallé, no. 116, ♂ et ♀.

TROCHILIDÆ.

I have not myself examined M. Sallé's collection of *Trochilidæ*, but he has kindly furnished me with the names of twenty-five species, which he obtained, as determined by himself and M. Bourcier.

20. PHAETHORNIS ADOLPHI.—*Pygmornis adolphi*, Sallé, MS.
Mr. Gould will shortly publish a figure of this new species.
21. LAMPORNIS PREVOSTI (Bourc. & Muls.), R. Z. 1843, p. 99.
22. CAMPYLOPTERUS PAMPA (Less.), Ois. Mouch. Suppl. pl. 15 ;
Bp. Consp. p. 71 ; Gould, Mon. Trochil. x. pl. 11.
23. CAMPYLOPTERUS DELATRII (Less.), R. Z. 1839, p. 14 ;
Gould, Mon. Trochil. x. pl. 10.
24. COLIBRIS THALASSINA (Sw.), Phil. Mag. 1827, p. 441 ; Bp.
Consp. p. 69 ; Gould, Mon. Trochil. v. pl. 5.
25. HELIOMASTER CONSTANTII (Delattre), Gould, Mon. Trochil.
v. pl. 10.
26. CÆLIGENA FULGENS (Sw.), Phil. Mag. 1827, p. 341.—*Orn.*
rivoli, Less.
27. MYIABEILLIA TYPICA, Bp. ; Gould, Mon. Trochil. viii. pl. 7.
28. DELATRIA HENRICI (Less.), Bp. Consp. p. 70 ; Gould,
Mon. Trochil. viii. pl. 14.
29. DELATRIA RHAMI (Less.), R. Z. 1838, p. 315.
30. DELATRIA CLEMENCE (Less.), Gould, Mon. Trochil. ix.
pl. 10.
31. CYANOMYIA QUADRICOLOR (Vieill.), Gould, Mon. Trochil.
ix. pl. 9.
32. AMAZILIUS ARSINOE (Less.), Bp. Consp. p. 77.
33. AMAZILIUS DUBUSI (Bourc.), 1852, ubi ?
Is this species really distinct from *A. riefferi* (Bourc.), R. Z. 1843,
p. 103 ? I cannot see any difference in Mr. Gould's examples of
these two species.
34. AMAZILIUS CERVINIVENTRIS, Gould, P. Z. S. 1856,
June 10th.
35. SPORADINUS CANIVETI (Less.), Colibris, Suppl. pl. 37.
Perhaps this may be *S. auriceps*, Gould (Cont. Orn. 1852, p. 137),
which appears to be the Mexican representative of *S. caniveti*.
36. THAUMATIAS CANDIDUS, Bourc. Ann. Sc. Lyons, 1846 ; Bp.
Consp. p. 78.
37. BASILINNA LEUCOTIS (Vieill.). — *Orn. arsenii*, Less. Ois.
Mouch. pl. 9, Suppl. pl. 27.
38. TROCHILUS COLUBRIS, Linn.

39. SELASPHORUS PLATYCERCUS (Sw.), Phil. Mag. 1827, p. 441.
—*O. tricolor*, Less., Gould, Mon. Trochil. iii. pl. 7.

40. SELASPHORUS HELOISÆ (Less. & Del.), R. Z. 1839, p. 15 ;
Gould, Mon. Trochil. viii. pl. 2.

41. CALOTHORAX LUCIFER (Sw.), Phil. Mag. 1827, p. 442 ; Bp.
Consp. p. 85.

42. CALOTHORAX ELIZA (Less. & Delattre).—*Tr. eliza*, Less. &
Del. R. Z. 1839, p. 20.

43. THAUMASTURA DUPONTI (Less.). — *Tryphaena duponti*,
Gould, Mon. Trochil. i. pl. 14.

44. LOPHORNIS HELENÆ (Delattre), Gould, Mon. Trochil. x.
pl. 6.

CERTHIIDÆ.

45. SYNALLAXIS ERYTHROTHORAX, Sclater, P. Z. S. 1855, p. 75.
pl. lxxxvi.

Sallé, no. 109. Cordova. This is the only bird of the genus
which I have as yet seen from north of the Isthmus of Panama.

46. ANARATES RUBIGINOSUS, sp. nov.

Sallé, no. 102. Cordova.

*Saturate brunneus ; pileo obscuriore : alis extus, uropygio et cauda
tota cum pectore saturate rubiginoso-rufis ; gula clariore : ventre
dorso concolore sed medialiter pallidiore : tectricibus subalaribus
clare rubiginosis : rostro forti, crasso, recto, nigricante, basi
pallida : pedibus nigricanti-plumbeis.*

Long. tota 8·0, alæ 3·7, caudæ 3·3, rostri a rictu 1·2.

This fine *Anabates* is of the same strong form as *A. ferruginolentus* (Max.), but has shorter wings and rather a stiffer tail. I know
of no species that resembles it much in colouring.

47. ANABATES CERVINIGULARIS, sp. nov.

Sallé, no. 104. Cordova.

*Supra saturate brunneus ; pileo nigro : dorso summo nigricante ad-
umbrato : plumis medialiter pallidioribus : loris, superciliis longis
et cervicis lateribus clare rufis : gutture dilutiore, pallide cervino :
abdomine flavescenti-brunneo lateraliter obscuriore : alarum pennis
nigris extus brunneo limbatis, subtus autem cum tectricibus sub-
alaribus clare rufis : uropygio et crisso cum cauda tota saturate
rubiginoso-rufis : rostro validiusculo, recto, corneo, basi autem
flavicante : pedibus pallide brunneis.*

Long. tota 7·5, alæ 3·6, caudæ 3·0.

This species is not quite so strong in form as the last, and has not
so thick a bill. In colouring it somewhat resembles *A. atricapillus*,
but is much larger than that bird. The sexes are coloured alike.

48. ANABAZENOPS VARIEGATICEPS, sp. nov.

Sallé, no. 204. Cordova. Sexes alike.

Supra brunneus: pilei pennis olivaceis, nigro angustissime circumcinctis et scapis plumarum flavicantibus: superciliis longis rufis: loris et regione auriculari nigris: mento et gutture toto ochraceo-albidis: abdomine pallide brunneo: cauda clare rubiginoso-rufa: tectricibus subalaribus flavicanti-ochraceis: rostro pallide corneo, basi flavicante: pedibus pallide brunneis.

Long. tota 6·0, alæ 3·3, caudæ 2·7.

This bird closely resembles *Anabazenops rufo-superciliatus* (Lafr.), but may be recognized at once by the darker, browner back, and the variegated head, which in the latter species is of the same greenish brown as the back. In the present bird also there is not that decided mottled plumage on the breast observable in the other species, although there are slight indications of it on the sides of the neck.

49. XENOPS MEXICANUS, sp. nov.

Rufescenti-olivaceus, capite obscuriore, uropygio rufo: loris albidis: stria superciliari angusta ochraceo-flavida: regione auriculari ochraceo-flavida, nigro mixta: penicilla utrinque sub regione auriculari alba: subtus dorso similis sed minus rufescens, mento et gutture medio ochraceo-albidis: alis nigris: vitta lata per remiges cum secundariarum interiorum marginibus et terminationibus necnon secundariis dorso proximis rufis: cauda rufa: rectricibus duabus utrinque submedialibus omnino et rectricum his proximarum parte basali nigris, duabus mediis et una utrinque extima omnino rufis: rostro nigro, basi inferiore albicante: pedibus nigris.

Long. 4·6, alæ 2·7, caudæ 2·1.

Obs. Affinis *Xenopi genibarbi*, sed crassitie majore et colore subtus olivascentiore necnon gula ochraceo-albida distinguendus. ♂ et ♀ similes.

Sallé, no. 115. Cordova.

50. DENDRORNIS FLAVIGASTRA (Sw.).—*Xiphorhynchus flavigaster*, Sw. Phil. Mag. 1827, p. 440.—*Nasica flavigaster*, Lafr. R. Z. 1850, p. 383; DesMurs, Icon. Orn. pl. 52.

Sallé, no. 97. Cordova.

51. DENDRORNIS TRIANGULARIS (Lafr.), R. Z. 1842, p. 134, 1850, p. 418, et Mag. de Zool. 1843, pl. 32.

Sallé, no. 99. Cordova.

52. PICOLAPTES AFFINIS, Lafr. R. Z. 1850, p. 275?

Sallé, no. 98. Cordova. M. Sallé has brought home a single bird of this difficult group which I refer with some doubt to *P. affinis*, Lafr.

No. CCCXIX.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

53. SITTASOMUS SYLVIoidES, Lafr. R. Z. 1849, p. 331, et 1850, p. 590.

Sallé, no. 100. Cordova.

54. SCLERURUS MEXICANUS, sp. nov.

Sallé, no. 101. Cordova.

*Brunnescenti-olivaceus, pileo paulo obscuriore; uropygio cum cer-
vice et pectore antice saturate rufis: mento albescentiore: alis
nigris brunneo limbatis, rectricibus nigris, marginibus externis
brunnescentibus: rostro nigro; basi inferiore albicante: pedibus
nigerrimis.*

Long. tota 6·5, alæ 3·2, caudæ 2·2.

M. Sallé's collection contains four examples of this interesting bird, which has never previously come under my notice. One marked as a female has the bill rather longer than the others, but does not otherwise differ from them. It may be at once distinguished from the Brazilian *S. caudacutus* (to which it shows great general resemblance) by its smaller size. Hartlaub's *S. fuscus* (R. Z. 1844, p. 370) seems to be larger, and differently coloured.

55. CErTHIA MEXICANA, Reich. Handb. d. Sp. Orn. p. 266.

Sallé, no. 106. Ranchos de Suapam.

I have not yet had an opportunity of comparing this bird with specimens of *C. americana*.

56. SCYtALOPUS PROSTHELEUCUS, sp. nov.

Sallé, no. 112. Cordova.

*Supra brunneus, dorso rufescente: superciliis longis albis: lateri-
bus capitis nigris albo variegatis: subtus albus; lateribus cinera-
eis, ventre imo et crisso rufescentibus: alis fusco-nigris extus
rufescenti-brunneo transvittatis: tectricum apicibus albo macu-
latis: cauda tota nigricante et rufescenti-brunneo tessellata:
rostrum nigro: pedibus brunneis.*

Long. tota 3·8, alæ 2·2, caudæ 1·0.

This Mexican species much resembles in colouring a Bogota bird in my collection, which I somewhat doubtfully refer to *S. griseicollis*, Lafr., but differs from it in having the lower parts cinereous and not white.

57. TROGLODYTES PALUSTRIS (Wilson), Am. Orn. pl. xii. fig. 4.

Sallé, nos. 107 et 210. Romatlan.

58. TROGLODYTES HYEMALIS, Vieill., Wils. Am. Orn. pl. 8. fig. 6.

Sallé, no. 108. El Jacale.

59. THRYOTHORUS MACULIPECTUS, Lafr. R. Z. 1845, p. 338.

Sallé, no. 111. Cordova.

60. CAMPYLORHYNCHUS ZONATUS (Less.), Cent. Zool. pl. 70.

Sallé, no. 59. Cordova.

MNIOTILTINÆ.

61. MNIOTILTA VARIA (Linn.).

Sallé, no. 128, ♂ et ♀.

62. HELMITHEROS SOLITARIUS (Wilson), Am. Orn. t. 15. fig. 4.

Sallé, no. 125. Cordova.

63. HELMITHEROS RUBRICAPILLUS (Wilson), Am. Orn. t. 27.

fig. 3.

Sallé, no. 126. Cordova.

64. HELMITHEROS — ?

Sallé, no. 123. Cordova, ♂.

Olivaceus : pileo cinereo : capite laterali et gutture toto cum pectore et ventre medio albidis : lateribus flavescenti-olivaceis.

Long. tota 4·2, alæ 2·2, caudæ 1·6.

This bird seems in plumage rather to resemble the female of *Trichas macgillivraii* as figured by Audubon (B. Amer. 8vo. ii. pl. 100. fig. 2), but certainly in my judgement belongs to this genus.

65. RHIMAMPHUS CORONATUS (Linn.).

Sallé, no. 120. Cordova, av. juv.

66. RHIMAMPHUS PENSILIS (Gm.).

Sallé, no. 211.

67. RHIMAMPHUS VIRENS (Gm.).

Sallé, no. 118.

68. RHIMAMPHUS OLIVACEUS (Giraud).—*Sylvia olivacea*, Giraud, B. Texas, p. 14. pl. 7. fig. 2.—*Sylvicola taniata*, DuBus, Bull. Ac. Brux. xiv. p. 104 ; P. Z. S. 1855, p. 66 ; Cassin, B. Cal. i. pl. 48. p. 283.

Sallé, no. 191.

69. MYIODIOCTES MITRATUS (Lath.), Bp. Consp. p. 315.

Sallé, no. 121. Cordova.

70. MYIODIOCTES PUSILLUS (Wilson), Bp. Consp. p. 315.

Sallé, no. 122.

71. EUTHLYPIS LACRYMOSA, Cab. Mus. Hein. p. 19 (note).—

Basileuterus, sp. 10 ; Bp. Consp. p. 314.

Sallé, no. 131. Cordova.

72. BASILEUTERUS RUFIFRONS (Sw.).—*Setophaga rufifrons*, Sw.

An. in Men. p. 294 ; Bp. Consp. p. 314.

Sallé, no. 124.

73. *BASILEUTERUS BRASIERI* (Giraud).—*Muscicapa Brasierii*, Giraud, B. Texas, pl. 6. fig. 2.—*B. culicivorus*, Cab. Mus. Hein. p. 17; Bp. Consp. p. 313; P. Z. S. 1855, p. 66.

Sallé, no. 127, ♂ et ♀ similes. Cordova.

74. *SETOPHAGA RUTICILLA* (Linn.).

Sallé, no. 174.

75. *SETOPHAGA PICTA*, Sw. Zool. Ill. n. s. pl. 3; Bp. Consp. p. 312.

Sallé, no. 188.

76. *SETOPHAGA MINIATA* (Sw.).—*Muscicapa miniata*, Sw. Phil. Mag. 1827, p. 368.—*Muscicapa vulnerata*, Wagler, Isis, 1831, p. 520.—*Muscicapa derhamii*, Giraud, B. Texas, pl. 3. fig. 2.

Sallé, no. 81.

77. *GRANATELLUS SALLÆI* (Plate CXX.).—"Setophaga sallæi, Bp. et Sclater;" Bp. Compt. Rend. 1856, May.

Sallé, no. 129. Cordova.

Ceruleo-plumbea, superciliis vix obscurioribus: litura postoculari alba: genis gulaque plumbescentibus: pectore et abdomine medio cum crisso rosaceo-coccineis: lateribus postice albis: alis caudaque nigricantibus, plumbeo extus marginatis: rostro crasso, paululum incurvo, nigricanti-plumbeo; vibrissis fere nullis: pedibus pallide brunneis.

Long. tota 5·2, alæ 2·4, caudæ 2·3.

This very pretty bird, of which M. Sallé only procured a single specimen, is, I think, upon reconsideration hardly to be placed in the genus *Setophaga*, although so closely resembling many species of that genus in its style of colouring. The bill is quite different from that of *Setophaga*, and is more like that of *Nemosia*, being even thicker than in some species of the latter form, but rather more incurved. The characters given by Prince Bonaparte for his genus *Granatellus* (founded upon a bird figured in an unpublished plate of DuBus's *Esquisses Ornithologiques*) seem to agree better with this bird, and from the description of the only species of that genus (which I have never seen) I cannot help thinking that it may have something to do with the present bird. I therefore place them for the present in the same genus.

78. *CARDELLINA RUBRA* (Sw.).—*Setophaga rubra*, Sw. Phil. Mag. 1827, p. 368; Cassin, B. Cal. pl. 43. p. 265.—*Parus leucotis*, Giraud, B. Texas, pl. 4. fig. 2.

Sallé, no. 119. El Jacale.

79. *TRICHAS MARILANDICA* (Linn.), Wils. Am. Orn. pl. 6. fig. 1.—*Trichas personatus*, Sw. Phil. Mag. 1827, p. 433.

Sallé, no. 130.



HEANATELLUS GALLAE

PLATE 178

80. *TRICHAS DELAFIELDI*, Audub. Orn. Biogr. v. p. 307; B. Am. 8vo. ii. p. 81. pl. 103.

Sallé, no. 209.

M. Sallé's specimens seem to agree with Audubon's figures and descriptions of *Trichas delafieldi*.

ERITHACINÆ.

81. *SIALIA WILSONI* (Sw.), Wils. Am. Orn. pl. 3. fig. 5.

Sallé, no. 85 bis. Cerro del Gallego; Cordova.

82. *SIALIA MEXICANA*, Sw. North. Zool. ii. p. 202 (note).—*S. occidentalis*, Townsh. Journ. Ac. Phil. vii. p. 188; Aud. B. Am. 8vo. ii. pl. 135.—*S. cæruleicollis*, Vig. Zool. Beechey's Voy. Pacif. pl. 3.

Sallé, no. 85.

PARINÆ.

83. *PARUS MERIDIONALIS*, sp. nov.

Sallé, no. 167. El Jacale.

Supra cinereus: alis caudaque nigricantibus brunnescenti-cinereo limbatis: pileo toto cum nucha, gutture et cervice antica nigerrimis: genis et capite laterali albis: abdomine cinereo brunnescente tincto; pectore et ventre medio albidis: rostro nigro: pedibus plumbeis.

Long. tota 4.8, alæ 2.65, caudæ 2.3.

This Titmouse is a very close ally of *Parus atricapillus* and *Parus carolinensis*. I am sorry I have not been able to compare it with authentic specimens of those species, but, as far as I can judge from Mr. Cassin's excellent synopsis of American Parinæ given in his 'Birds of California,' it would appear—as by the locality it comes from would seem most probable—to be distinct from either of those species.

From *P. carolinensis* it appears to differ in its greater size, being nearly half an inch longer than the dimensions assigned to that bird by Mr. Cassin. It would hardly seem likely that it is the same as *P. atricapillus*, which is an inhabitant of the more northern states of the Union, and the slightly inferior size and white medial line on the lower parts seem to distinguish it from that species.

SITTINÆ.

84. *SITTA CAROLINENSIS*, Latham.

Sallé, no. 199.

MOTACILLINÆ.

85. *HENICOCICHLA AURICAPILLA* (Gm.), Cab. Mus. Hein. p. 15.

Sallé, no. 59.

86. *ANTHUS LUDOVICIANUS* (Gm.).

Sallé, no. 200.

87. ANTHUS — ?

Sallé, no. 201.

TURDINÆ.

88. TURDUS MIGRATORIUS, Linn., Sw. Phil. Mag. 1827, p. 368.
Sallé, no. 54. Rotosinapam.

89. TURDUS TRISTIS (Sw.). — *Merula tristis*, Sw. Phil. Mag. 1827, p. 369. — *Turdus grayi*, Bp. P. Z. S. 1837, p. 118; Consp. p. 272. — *Turdus helvolus*, Licht. in Mus. Berol.

Sallé, no. 53. Cordova.

90. TURDUS MUSTELINUS, Gm., Wils. Am. Orn. pl. 2. fig. 1.

Sallé, no. 58. Cordova.

91. CATHARUS AURANTIROSTRIS (Hartlaub). — *Turdus aurantiirostris*, Hartl. R. Z. 1850, p. 158; Cont. Orn. 1851, pl. 72. p. 80. — *Catharus immaculatus*, Bp. Consp. p. 278.

Sallé, no. 164. Cordova.

I have not had an opportunity of comparing these specimens with Venezuelan examples, but, judging from the published figures and descriptions, I can detect no great difference.

92. MIMUS CÆRULESCENS (Sw.). — *Orpheus cærulescens*, Sw. Phil. Mag. 1827, p. 369; Temm. Pl. Col. 498.

Sallé, no. 56. Cordova.

93. MIMUS CAROLINENSIS (Linn.), Wils. Am. Orn. pl. 20. fig. 3.

Sallé, no. 57. Cordova.

94. MIMUS LONGIROSTRIS (Lafr.). — *Orpheus longirostris*, Lafr. R. Z. 1838, p. 54; Cab. Mus. Hein. p. 81.

Sallé, no. 93. Cordova.

FORMICARIIDÆ.

95. GRALLARIA GUATIMALENSIS, Prevost, Zool. Venus, pl. 2. — *Chamæza guatimalensis*, Bp. Consp. p. 204.

Sallé, no. 52. Cordova.

This fine *Grallaria* is a typical species of the genus, a strict northern representative of *Grallaria rex* and *imperator*, and by no means to be placed among the *Chamæzæ*.

96. FORMICARIUS MONILIGER, sp. nov.

Supra brunnescenti-olivaceus, colli latcribus et uropygio rufescentioribus, pileo nigricantiore: macula in loris triangulari alba: gutture toto nigro, infra vitta angusta rufa cincta: abdomine toto nigricanti-griseo, lateribus et crisso olivaceo perfusis: regione oculari nuda: tectricibus subalaribus ochraceis, nigro variegatis: caudæ parte apicali nigra: rostro nigro: pedibus clare brunneis.

Sallé, no. 105, ♂ et ♀ similes. Cordova.

A typical *Formicarius*, a close ally of *F. cayanensis*, *analis*, &c., but distinguished by its black throat, bordered beneath by a narrow band of rufous; white triangular spot on the lores; and other differences. It is the first of the form found to occur so far north.

97. *THAMNOPHILUS DOLIATUS* (Linn.).

Sallé, no. 65, ♂ et ♀.

TYRANNIDÆ.

98. *TODIROSTRUM CINEREIGULARE*, sp. nov.

Olivaceum: alis caudaque nigris, flavicante olivaceo limbatis: orbitis antice nigricantibus: loris albidis: subtus gutture et cervicē cinereis aut potius albis cinereo dense striolatis: pectore olivaceo: abdomine toto et tectricibus subalaribus flavis: rostro compressiusculo, crassiusculo; culmine carinato, incurvo; colore nigricante, tomis pallidis: pedibus pallide brunneis.

Long. tota 3.6, alæ 1.7, caudæ 1.2.

Sallé, no. 89, ♂. Cordova.

This *Todirostrum* differs slightly in the form of the bill from the ordinary members of the genus, that part being rather thicker, and with the culmen elevated and more incurved than in the typical species of the group.

99. *MUSCIVORA MEXICANA*, sp. nov.

"*Megalophus mexicanus*, Kp.," Bp. MS.

Brunnea: uropygio, cauda tota et corpore subtus flavescenti-ochraceis, gutture albidiore: alis extus ochraceo punctatis et subtus (nisi primariorum apicibus) omnino ochraceis: crista ampla, aureo-flava, cærulescente æneo terminata: rostro productiore quam in M. regia: pedibus flavidis.

Long. tota 6.0, alæ 3.3, caudæ 2.8, rostri a rictu 1.3.

Sallé, no. 78. Cordova.

M. Sallé's collection contains a single example of this interesting bird, which however was not procured by himself, and is unfortunately not in very good condition. It is probably the *Megalophus mexicanus* of Dr. Kaup, which I have seen indicated in Prince Bonaparte's MS., but which I believe is merely an unpublished name. From the common *Muscivora regia*, to which it offers a close general resemblance, it may be distinguished by its longer bill, and having the base of the crest of a paler yellow tint, and the tips with less purplish colouring.

The *Muscivora castelnavii* (*Onychorhynchus castelnavii*, Deville, R. Z. 1849, p. 56), the only second member of the genus hitherto known, from Eastern Peru, on the other hand appears to have a shorter bill and more reddish crest than the typical species.

100. *PLATYRHYNCHUS CANCROMA* (Licht.), Bp. Consp. p. 183.

Sallé, no. 90. Cordova, ♂ et ♀ similes.

I can find no difference between these and S. American specimens.

101. CYCLORHYNCHUS BREVIROSTRIS, Cab. Orn. Notiz. in Wieg. Arch. 1847, p. 249.

Sallé, no. 82. Cordova.

This bird is readily distinguished from the Brazilian *C. olivaceus* by its shorter and more rounded beak.

102. PYROCEPHALUS RUBINEUS (Bodd.).—*Tyrannula coronata*, Sw. Phil. Mag. 1827, p. 367; Cassin, B. Cal. pl. 18. p. 127.

Sallé, no. 94, ♂ et ♀. Cordova.

103. TYRANNULA SULPHUREIPYGIA, sp. nov.

Sallé, no. 84. Cordova.

Olivacea: pilei crista mediali flava: uropygio pallide sulphureo: alis caudaque nigris, secundariis extus brunnescente limbatis: subtus flavicanti-brunnea, gula et ventre medio flavis.

Long. tota 5·2, alæ 2·8, caudæ 2·3.

Obs. Aff. *T. barbata* ex America Meridionali, sed statura majore, colore uropygii pallidior et corporis subtus brunnescentiore distinguenda.

104. TYRANNULA — ?

Sallé, no. 88, ♂ et ♀ similes. Cordova.

105. TYRANNULA — ?

Sallé, no. 92, ♀. Cordova.

106. TYRANNULA — ?

Sallé, no. 83, ♂. Cordova.

107. TYRANNULA — ?

Sallé, no. 95.

These little Tyrants are in such a sad state of confusion at present, that it only makes matters worse to attempt to describe new species.

108. MIONECTES OLEAGINUS (Licht.), Bp. Consp. p. 187.

Sallé, no. 91. Cordova.

M. Sallé's specimens seem to agree with South American examples.

109. SAYORNIS NIGRICANS (Sw.).—*Tyrann. nigricans*, Sw. Phil. Mag. 1827, p. 367.

Sallé, no. 86. Cordova.

110. MYIARCHUS MEXICANUS (Kp.), P. Z. S. 1851, p. 51 ?

Sallé, no. 77. Cordova.

111. ELÆNIA TEXENSIS (Giraud).—*Musc. texensis*, Giraud, B. Texas, pl. 1.—*Tyr. cayennensis*, Sw. Phil. Mag. 1827, p. 367.

Sallé, no. 76, ♂ et ♀ similes.

Hardly distinct from *Elænia cayennensis*. The back is rather more tinged with green, and there is more white on the front than

in the South American bird. The dimensions are perhaps slightly larger, and the bill longer.

112. *ELÆNIA VARIEGATA*, sp. nov.

Sallé, no. 80. Cordova, ♂ et ♀ similes.

Supra brunnea, olivascente tincta, marginibus plumarum pallidioribus : alis caudaque nigricantibus, illarum tectricibus extus albo marginatis : pileo et capitibus lateribus nigris : crista mediali flava : superciliis a fronte circum nucham conjunctis, albis : subtus pallide flava, gutture albo, striga utrinque rictali nigra : pectore nigricante flammulato : rostro et pedibus nigris.

Long. tota 6·2, alæ 3·7, caudæ 2·6.

Obs. Affinis *Elæniæ albicollis* (Vieill.) ex America Meridionali sed crassitie majore : coloribus lætioribus.

113. *ELÆNIA* — ?

Sallé, no. 93. Cordova, ♀.

114. *MILVULUS TYRANNUS* (Linn.).

Sallé, no. 79. Plains of Vera Cruz.

115. *TYRANNUS MELANCHOLICUS*, Vieill.—*M. furcata*, Spix, Av. Bras. ii. p. 15. pl. 19.

Sallé, no. 208.

116. *TYRANNUS AUDAX* (Gm.)?

Sallé, no. 87. Cordova.

M. Sallé's examples of this bird are much more brightly coloured than any S. American specimens which have come under my observation. The belly is also wholly of a pale sulphur-yellow, instead of being only tinged with that colour. When the group is properly worked out, this will probably be found to constitute a sufficiently distinct species.

117. *TYRANNUS COOPERI* (Nutt.), Aud. Orn. Biogr. ii. p. 422?

Sallé, no. 207.

118. *PITANGUS DERBIANUS* (Kp.).—*Saurophagus derbianus*, Kp. P. Z. S. 1851, p. 44. pl. 36. — *Saurophagus rufipennis*, Lafr. R. Z. 1851, p. 471? — *Saurophagus sulphuratus*, Gambel in Journ. Ac. Sc. Phil. i. p. 39?

Sallé, no. 75. Cordova.

TITYRINÆ.

119. *TITYRA MEXICANA* (Less.) : *antea*, p. 141.

Sallé, no. 67.

120. *PACHYRHAMPHUS AGLALÆ* (Lafr.), R. Z. 1839, p. 98.

Sallé, no. 96. Cordova.

♂ adult. *Niger, cristatus, uropygium versus schistacescentior :*

subtus pallide schistaceus, collo antico late roseo : scapularibus intus, et remigum primariarum (nisi duarum exteriorum) basibus internis albis.

♂ immat. *Brunneus nigro mixtus : capite cristato nigro : alis extus rufis : subtus pallidior, collo rosaceo imbuto.*

♀. *Rufescens : alis intus nigris : harum marginibus et cauda tota late rufis : capite cristato nigro : subtus albescenti-cinnamomeus : tectricibus subalaribus cinnamomeis.*

Long. tota 6·5, alæ 3·5, caudæ 2·6.

I think that some recent Naturalists have acted rather hastily in uniting together the various rose-necked Becards into one species. The present bird appears to me to be sufficiently distinct from *P. pectoralis* of Cayenne, and M. de Lafresnaye has already pointed out its difference from the Bolivian *P. roseicollis*. From my specimens of the former it may be recognized by its lighter colour below, and the broader rose-coloured bar on the throat. Besides, the second abnormally short primary of the adult male has not the large white blotch on the interior web which is observable in the *P. pectoralis*.

121. PACHYRHAMPHUS MARGINATUS (Licht.) ?

Sallé, no. 184.

A single specimen of a bird of the general appearance of the S. American *P. marginatus*, which has been divided into several subspecies by Dr. Kaup (*P. Z. S.* 1851, p. 48), but showing rather broader white margins to the wings and tail.

MUSCICAPINÆ.

122. POLIOPTILA — ?

Sallé, no. 117. Cordova.

Three specimens all alike (one of which is marked 'male') seem to agree with the female of the bird figured by Mr. Cassin, *Birds of Cal.* pl. 27, under the name of *C. mexicanu*. The specimen marked 'male' is possibly therefore not adult, as there are no traces of the black cap.

VIREONINÆ.

123. VIREO SOLITARIUS (Wilson), Cassin in *Pr. Ac. Phil.* v. 150.

Sallé, no. 133.

124. VIREOSYLVA GILVA (Vieill.), Cassin in *Pr. Ac. Phil.* v. 153.

Sallé, no. 123.

125. VIREOSYLVA FLAVO-VIRIDIS, Cassin, *Pr. Ac. Sc. Phil.* v.

Sallé, no. 205, p. 152. pl. 11.

126. ICTERIA VELASQUEZI, Bp. *P. Z. S.* 1837, p. 117 ; *Consp.* p. 331 ?

Sallé, no. 204.





W. Wolf del.

M. H. Hand coll.

PIPRA MENTALIS (Linn.)

The Mexican *Icteria* seems distinct from the black-billed *I. viridis* of the United States; but I confess I am wholly unable to decide whether it is the second or third species of Prince Bonaparte's Consp. *Are there really two Mexican species? and what is the Californian I. longicauda?*

127. CYCLORHIS FLAVIVENTRIS, Lafr. R. Z. 1842, p. 330.

Sallé, no. 162.

I have examples of this species from Guatemala.

PIPRINÆ.

128. MANACUS CANDEI (Parzud.), Bp. Consp. p. 171.

Sallé, no. 170. Cordova.

M. Sallé obtained only a single specimen of this beautiful Manakin, which was originally brought from Honduras.

129. PIPRA MENTALIS, sp. nov. (Plate CXXI.)

Sallé, no. 171. Cordova.

Nigra: capite toto cum nucha coccineis: mento summo tibiisque plumosis et tectricibus subalaribus flavis.

♀. *Pallide viridis, subtus paulo dilutior.*

Long. tota 4·0, alæ 2·3, caudæ 1·1.

This Manakin is a beautiful Mexican representative of *P. rubricapilla* and *P. chloromeros*. From the former it may be distinguished by its yellow thighs, from the latter by its yellow chin and under wing-coverts.

AMPELINÆ.

130. AMPELIS CEDRORUM (Vieill.), Wagl. Isis, 1831, p. 528.

Sallé, no. 134. Cordova.

131. PTILOGONYS CINEREUS, Sw., Bp. Consp. p. 335.

Sallé, no. 185.

132. MYIADESTES UNICOLOR, sp. nov.

Hypothymis cæsia, Licht. in Mus. Berol.?

Schistacea unicolor, subtus pallidior, ventre albicantiore: remigibus nigris, harum autem (nisi trium extimarum) basibus alula spuria partim celatis, cum marginibus ipsarum et secundariarum apicem versus externis brunnescenti-oleagineis; hoc colore intus sub ala albidiore: cauda nigra; reatricibus duabus mediis schistaceis, harum duarum utringue extimarum parte apicali pallidiore et apicibus ipsis cum margine interna apicem versus albis: rostro et pedibus nigris.

Long. tota 7·5, alæ 3·8, caudæ 3·4.

Sallé, no. 150. Cordova, ♂ et ♀ similes.

This bird is certainly quite distinct from Lafresnaye's *M. obscura*, of which I possess examples from Guatemala. Judging from Audu-

bon's plate and description it likewise would seem different from *P. townshendi*, which has been united to Lafresnaye's species, I believe quite erroneously, by Prince Bonaparte.

My impression is that the Berlin Museum specimens, marked "*Hypothymis cæsia*," are identical with the present bird; but as I have no means of verifying that fact, and the name is merely in MS., I think it safer to give it a new appellation.

Lafresnaye's *M. obscurus* (R. Z. 1839, p. 99), of which I have examples procured near the city of Guatemala by Signor Constancia, may be recognized at once from the present species by its brown back and rufous wing-edgings.

GARRULINÆ.

133. *PSILORHINUS MORIO* (Licht.), Bp. Consp. p. 381.

Sallé, no. 12. Cordova.

M. Sallé has procured a fine series of specimens of this bird, showing every variety in the colouring of the bill from black to yellow.

134. *CYANOCORAX LUXUOSUS* (Less.), DuBus, Esq. Orn. pl. 18; Cassin, B. Cal. pl. 1. p. 1.—*C. peruvianus*, Cassin, Pr. Ac. Phil. iv. p. 89, nec auct.

Sallé, no. 47, ♂ et ♀. Cordova.

135. *CYANOCITTA FLORIDANA* (Bartram), Bp. Consp. p. 377.

Sallé, no. 186.

Prince Bonaparte identifies a somewhat immature bird in M. Sallé's collection as belonging to this rare species.

STURNIDÆ.

136. *QUISCALUS MACRURUS*, Sw., Bp. Consp. p. 424.

Sallé, no. 130. Cordova, ♂ et ♀.

Maris long. tota 19·0, alæ 8·9, caudæ 9·0; fœminæ long. tota 14·5, alæ 6·3, caudæ 6·8.

137. *QUISCALUS* — ?

Sallé, no. 29, ♂ et ♀.

Nigro-nitens unicolor, rostro et pedibus nigerrimis.

Long. tota 10·8, alæ 5·2, caudæ 5·2.

138. *MOLOTHRUS ÆNEUS* (Wagl.), Cab. Mus. Hein. p. 192, note.

Sallé, no. 28. Cordova, ♂ et ♀.

139. *CACICUS MONTEZUMÆ* (Less.), Cont. Zool. pl. 7.—*C. bifasciatus*, Spix?—*Ostinops bifasciatus*, Cab. Mus. Hein. p. 187.

Sallé, no. 26. Cordova, ♂ et ♀.

Castaneus: capite toto cum corpore subtus nigricantibus, hoc colore ventrem versus in castaneum transeunte: tibiis et alis subtus

nigris : cauda flavissima : reatricibus duabus mediis solum nigris : rostro nigro, dimidio apicali ruberrimo.

Long. tota 17·0, alæ 9·3, caudæ 7·0.

♀. *Mari similis, sed minor.*

Long. tota 14·0, alæ 7·6, caudæ 6·0.

140. CASSICULUS PREVOSTI (Less.), Bp. Consp. p. 428.

Sallé, no. 27.

141. STURNELLA HIPPOCREPIS, Wagl., Isis, 1832, p. 281 ; Cassin, Pr. Ac. Phil. iv. p. 90.

Sallé, no. 135, ♀.

This bird is clearly distinguishable from the *S. ludoviciana* by its smaller size and the smaller breast-mark. But the name *hippocrepis* was established upon Cuban specimens. Are they quite the same as this Mexican bird ?

142. ICTERUS MELANOCEPHALUS (Wagl.), Cassin, B. Cal. pl. xxi. p. 137.

Sallé, no. 60.

143. ICTERUS MESOMELAS (Wagl.), Isis, 1829, p. 755.—*I. atrigularis*, Less. Cent. Zool. pl. 22. p. 73. — *Oriolus musicus*, Cabot. Boston Journ. N. H. iv. 465.

Sallé, no. 61. Cordova.

144. ICTERUS CUCULLATUS, Sw. Phil. Mag. 1827, p. 436 ; Cassin, B. Cal. pl. 8. p. 42.

Sallé, no. 63. Cordova, ♂ et ♀.

145. ICTERUS PROS THEMELAS (Strickl.), Cont. Orn. 1850, p. 120. pl. 62.

Sallé, no. 63. Cordova.

This species has the under tail-coverts yellow. I think the bird resembling this, but with these parts black, which Mr. Strickland mentions in his description of *I. prosthelas*, is probably a distinct species ; but the whole group requires to be thoroughly revised and worked out before additional names are given.

146. BANANIVORUS AFFINIS (Townshend).—*Xanthornus affinis*, Townsh. Ann. Lyc. N. Y. 1851, p. 113, cum tab.

Sallé, no. 146. Cordova, ♂, ♂ juv. et ♀.

COCOTHRAUSTINÆ.

147. HEDYMELES LUDOVICIANUS (Linn.), Wils. Am. Orn. pl. 17. fig. 2.

Sallé, no. 154, ♂ et ♀. Cordova.

148. GONIAPHEA CÆRULEA (Linn.), Wils. Am. Orn. pl. xxiv. f. 6.

Sallé, no. 155. Cordova.

149. GONIAPHEA PARELLINA (Bp.).—*Cyanoloxia parellina*, Bp. Consp. p. 502.

Sallé, no. 159. Cordova, ♀.

♂. *Brunnea unicolor*: *alis caudaque intus fuscis*.

Long. tota 5·0, alæ 2·6, caudæ 2·0.

The bill of this specimen is slightly larger than that of a male *G. parellina* in my collection, but it otherwise agrees with it in dimensions.

150. GONIAPHEA CONCRETA (DuBus).—*Cyanoloxia concreta*, DuBus, Bull. Ac. Brux. xxii. p. 150 (1855).

Sallé, no. 175. Orizaba.

M. Sallé's collection contains a single specimen of this rare species.

151. CARDINALIS VIRGINIANUS, Bp. Consp. p. 501.

Sallé, no. 152, ♂ juv. Cordova.

152. SPERMOPHILA MORELLETI, Bp. Consp. p. 497?

Sallé, no. 165. Cordova, ♂ juv. et ♀.

♀ juv. *Supra rufescenti-cinereus*: *pileo summo et capitis lateribus cum alis caudaque nigris*: *tectricum alarium fascia duplici cum speculo primariorum basali et tectricibus subalaribus albis*: *subtus pallide rufescenti-ochraceus, gutture albicante*. ♂ junior aut ♀ *rufescenti-olivaceus, subtus dilutior, ochraceo-olivaceus*: *alis caudaque fuscis, ochraceo bifasciatis*.

My belief is that these are both young stages of a black and white species of *Spermophila*, probably *Sp. morelleti*, of which I have an adult specimen from Honduras. I have an example of the same bird as M. Sallé's, showing more black on the back and traces of the pectoral band, from Orizaba, collected by Botteri.

Mr. Lawrence's *Sp. albigularis* (described in the *Annals Lyc. N. Y.* v. p. 124) is also probably referable to this same species.

TANAGRINÆ.

153. PITYLUS POLIOGASTER, DuBus: *antea*, p. 66.

Sallé, no. 151. Cordova.

154. SALTATOR ATRICEPS, Less. Cent. Zool. pl. 69: *antea*, p. 69.

Sallé, no. 49. Cordova.

155. SALTATOR MAGNOIDES, Lafr.: *antea*, p. 69.

Sallé, no. 50. Cordova.

156. BUARREMON BRUNNEINUCHUS (Lafr.): *antea*, p. 85.

Sallé, no. 66. Cordova.

157. CHLOROSPINGUS OPHTHALMICUS (DuBus): *antea*, p. 89.

Sallé, no. 132. Cordova.

158. LANIO AURANTIUS, Lafr. : *antea*, p. 119.
Sallé, no. 158. Orizaba, ♀.
159. PHENICOTHRAUPIS RUBICOIDES (Lafr.).—*Saltator rubicus*, Cassin, Pr. Ac. Sc. Phil. iv. 90 : *antea*, p. 120.
Sallé, no. 141. Cordova.
M. Sallé's collection contains a fine series of specimens of this bird, showing every stage of transition between the brown plumage of the young and the rosy red of the adult. They appear to be rather variable in size.
160. PYRANGA ÆSTIVA (Linn.).
Sallé, no. 139. Cordova, ♂ et ♀.
161. PYRANGA ERYTHROMELÆNA (Licht.) : *antea*, p. 126.
Sallé, no. 143. Cordova.
162. RAMPHOCELUS SANGUINOLENTUS (Less.) : *antea*, p. 132.
Sallé, no. 138. Cordova.
163. TANAGRA ABBAS, Licht. : *antea*, p. 235.
Sallé, no. 142. Cordova.
164. TANAGRA DIACOMUS, Less. : *antea*, p. 233.
Sallé, no. 140. Cordova.
165. EUPHONIA ELEGANTISSIMA (Bp.).—*Pipra galericulata*, Giraud : *antea*, p. 272.
Sallé, no. 147.
166. EUPHONIA AFFINIS, Less. : *antea*, p. 274.
Sallé, no. 213. Orizaba.
167. EUPHONIA HIRUNDINACEA, Bp. : *antea*, p. 278.
Sallé, no. 148. Cordova.
168. EUPHONIA — ?
Sallé, no. 187.
Olivacea æneo tincta : pileo antico flavo : abdomine medio et crisso
castaneis flavo mixtis.
Long. tota 3·7, alæ 2·4, caudæ 1·2.
This seems to be a female of an undescribed *Euphonia*.

FRINGILLINÆ.

169. CHRYSOMITRIS MEXICANA (Sw.), Phil. Mag. 1827, p. 435.
—*Fringilla texensis*, Giraud, B. Texas, pl. 5. fig. 1.
Sallé, no. 149, ♂. Cordova.