

March 26, 1868.

John Gould, Esq., F.R.S., V.P., in the Chair.

A letter was read, addressed to the Secretary by H. E. Sir Rutherford Alcock, Corr. Mem., dated "British Legation, Pekin, Dec. 23rd, 1867," announcing that he was endeavouring to obtain from the Imperial Park at Pekin two pairs of the newly described Stag, *Elaphurus davidianus*, for the Society's menagerie.

The following extract was also read from a letter addressed to the Secretary by Monsieur le Père David, referring to the same animal :—

"Comme vous le savez sans doute, nous ignorons jusqu'aujourd'hui quelle est la patrie primitive de ce Cerf, qui se reproduit depuis beaucoup de siècles dans le parc déboisé de Pekin et dans deux ou trois autres endroits ; résistant également bien à l'hiver rigoureux ou à l'été si chaud et si long de Pekin. D'après des renseignements très-vagues je suis porté à présumer que l'*Elaphurus davidianus* existe à l'état sauvage et naturel au sud-ouest du Koukoo-noor, et peut-être aussi dans la partie orientale de la Mantchourie."

A second extract was likewise read from the latter letter, containing the following notices of the localities of various species of Chinese *Phasianidæ*, in reference to Mr. Sclater's paper on the *Phasianidæ* and their geographical distribution, published in the Society's 'Proceedings' for 1863 :—

"1. Le *Phasianus torquatus* est généralement répandu dans toutes les grandes montagnes de la province de Pekin, mais ne s'y voit jamais en captivité.

"2. Le faisan de Reeves (*P. reevesi*) se trouve, mais peu abondant dans deux ou trois localités de notre province, où abondent les *Biota*, dont il aime les fruits ; il paraît plus abondant dans les provinces du S.O. et du sud et au sud du Yantse Kiang.

"3. Le faisan doré (*Thaumalea picta*) est inconnu dans le nord, et c'est, sans aucune doute, par erreur qu'on dit qu'il se trouve dans la Daurie. Il est propre aux montagnes du centre-ouest de la Chine, et plus vers l'occident dans la même latitude.

"4. Le *Crossoptilon auritum* est un oiseau plus chinois que manchou ; il devient partout plus en plus rare.

"5. C'est moi qui ai eu et signalé (en 1862) le premier une nouvelle espèce du *Pucrasia* que Mons. Gray a nommée *P. xanthospila*. Elle a été introduite en France par notre ministre M. Berthemy en 1864.

"6. Un *Ceriornis* vit au nord du fleuve jaune ; je ne l'ai pas encore vu, et ne sais pas si c'est le Tragopan de Temmiuck ou une nouvelle espèce.

"7. Je viens de signaler un nouveau Gallinacé aux Professeurs-Ad-

ministrateurs du Muséum de Paris, que je cherche en vain à me procurer depuis deux ans ; il est tout *d'un bleu uniforme*, plus obscur dans les parties inférieures, avec la queue noire et courte, et les pieds et le bec rouges. Un Lophophore peut-être?"

A letter was read from Percy Brandon, Esq., dated Bogota, Jan. 16th, 1868, stating that the Great Ant-eater (*Myrmecophaga jubata*) in the Society's Gardens, which had been presented by him on the 8th Nov. 1867, had been obtained when quite young from the Llanos of Casanaré on the eastern side of the Andes of New Granada.

Dr. Murie communicated the subjoined extract of a letter from the Rev. William Hincks of Toronto*:

"You will observe that I carefully guarded, in my first communication, against too great reliance on any of the characters which might possibly be affected by the degree of stretching or the precise position given in setting up. I still think these points worth careful comparison, but I referred to them in confirmation only of other characters ; but we must not let their uncertainty affect more important points. As to colour we must always allow for some variation ; and no doubt there are Trumpeter-Swans pure white like those that fell under your notice. Reliance cannot, therefore, be placed on this character, although it is well known here that the Trumpeter generally has the ferruginous hue on the head and neck, which *Cygnus americanus* never has, and which none of the specimens examined which seem to belong to *C. passmori* have, but which my last young specimen of *C. buccinator* has prominently, according to the rule to which I referred in my first paper, that such colouring is seen most in young birds. Absence of the characteristic colour is, then, some presumption against a Swan being *C. buccinator*, though after your specimens it is evident it is no proof, since the sterna you figure make it certain that your birds belong to *C. buccinator*.

"Now as to the sizes : of course very young birds are very small, and have to pass through all the grades to their full size ; but their growth is generally pretty rapid, and in very young birds there are various signs of immaturity, specially, for instance, the condition of the generative organs, which I had examined in every specimen. I stated in my paper that our first specimen of *C. passmori* (then the only one) seemed to be a mature bird. Now in comparing birds that have passed their first season, size is generally accounted a very important character ; and, as an instance in point, I referred in my last letter to the case of *Bernicla canadensis* and *B. hutchinsii*, where

* I have been favoured by a communication from the above-named gentleman, in which he expresses his unaltered conviction that *Cygnus passmori* is a distinct species from *C. buccinator*. As in a former paper of mine laid before this Society (P. Z. S. 1867, p. 8), I ventured to oppose the specific separation of *C. passmori* from *C. buccinator*, I think it but justice to Mr. Hincks to publish such portions of his letter to me as may vindicate his assertion.—J. M.

the markings are alike or very nearly so, but the former species is considerably larger; yet no practical observer doubts the species being distinct, their feeding and habits being somewhat different.

“If the relation of the trachea to the sternum is not a good character, all our species of *Cygnus* are in great confusion. Let it only appear that there is a real difference in the sternum and trachea between two sets of birds, and their specific difference is established. I was very particular in considering how far sex would affect the case; but as I had a pair, male and female, of *C. buccinator*, and the sterna were nearly alike, altogether so in all the important particulars, it is clear that sex does not account for any of the differences. Finally the shape of the pair of bronchial tubes, constant, I believe, in every species, is very apt to vary in different species, and is always worth noticing. Now as to the birds examined in this inquiry. The original specimen of *C. passmori* had its sternum like that figured by Yarrell for *C. buccinator*, whilst a large pair of *C. buccinator* compared with it had each a sternum such as is given in my paper (fig. 7), and of which the leading characters are much better expressed in your figures through being taken from younger birds. The expanse of the cordiform elevation is not so great in yours, nor the elevation of the knob in front; but no doubt can be entertained of your birds belonging to *C. buccinator*. All the doubts I admitted respecting *C. passmori* were founded on my examination of several Swans with essentially the sternum of *C. passmori*, but with slight variations as to the extent of the advance of the bended trachea within the carina, whilst I had no proof that the young of *C. buccinator* would display the cordiform swelling which I found in old specimens. Since then I have met with a known young *C. buccinator* which displayed the cordiform enlargement distinctly, though not fully developed in size and height; and your birds, which, though dwarfed and deficient in colour, certainly come between my young specimen and the old ones before examined by the intermediate development of the cordiform swelling, confirm the argument. In short, I am now in a position to affirm positively that the tracheal condition of *C. passmori* cannot, as I once thought possible though very doubtful, be a step in the development of *C. buccinator*. If, then, it does not mark a species, it is a mere variety; and in that case the forms of the sternum and bends of the trachea afford no true characters—a proposition which I cannot readily admit. It is now evident to me that the two young Swans referred to in my letter of April 10, 1864, were specimens of *C. passmori*, and, with my original specimen and Yarrell's figure which belonged to that species, show the degrees of development of that species, whilst my young Swan noticed in the last paper I sent over, your two specimens, and my pair of old birds of *C. buccinator* fully illustrate the progress of that species. The cordiform swelling at the hind part of the sternum (as in *C. bewickii*), found with the knob at the vertical bone in front of the sternum, indicating both a horizontal and vertical bend of the trachea, mark *C. buccinator*. *C. passmori* has the knob marking the vertical bend, though much more feebly than in the other species, but has no hori-

zontal bend, though going backwards on the carina to a variable extent. Now as to the bronchial tubes: I am not certain that the observation I make on the specimens occurring to me is reconcilable with Yarrell's figure in the 'Linnean Transactions,' vol. xvii. 1, but I always find *C. passmori* with the two tubes separate, the swelling of the lower portion comparatively small, and the directions of the tubes nearly parallel, whilst in *C. buccinator* the swelling of the lower portion is much greater, causing the narrow tubular portions to recede widely; and I think the difference in the breadth and figure of the tracheal rings holds good as I described it.

"As to the matter of size, my very young *C. buccinator* was larger than any *C. passmori* I have seen; and though yours are smaller, though evidently older than the one I refer to, I think confinement and being captured very young may account for this difference. Without doubt the ordinary size and weight of those the sternum of which marks them as *passmori* is much less than that of the others. The other characters I gave may have value, but I wait for further observations. I take my stand on the sternum; and now with three specimens of each species before me exhibiting varying development, but the same essential distinction, and affording proof that it is not a distinction of sex, I feel bound to maintain my species, though I will give it up on a reasonable explanation of facts. You have not yet had all the facts before you, not being aware of my young male Trumpeter with the parts in an early stage of progress, yet showing a manifest difference from the seemingly mature *C. passmori*, and putting an end to the notion of the form in *C. passmori* being a stage of progress.

I am, &c.

"P.S. On looking again at your paper I fear I did not make my measuring sufficiently clear in one point, as you seem to have misapprehended me. I refer to your page numbered 12, the short paragraph near the middle of the page, respecting the sterno-tracheal elevations in your specimens as compared with mine. Now in my specimen of *C. passmori* and in both the other specimens which I now think belong to it, noticed in my appended letter, the inner surface of the sternum is *level*; there is no bony elevation, except that at the front of the sternum forming a knob. There is no horizontal loop of the trachea in any specimen which I should call *C. passmori*. My present doubts all arise from Yarrell's figure in the 'Linnean Transactions,' vol. xvii. The bronchial tubes there are certainly those of *C. buccinator*; and perhaps his figure is drawn from a very young specimen of *C. buccinator*, as they generally attain great size when young, and in that state the horizontal loop could be only just commencing. I shall be on the look-out for further information; but I believe we shall have no Swans this season."

Dr. J. Murie exhibited some specimens of fishes illustrative of the supposed arrest of development of the Salmon (*Salmo salar*) when retained in fresh water. These examples had been hatched in the Society's Fish-house from ova presented by Mr. F. Buckland, in

January 1863, and stated to be those of the Salmon of the Rhine.

Mr. F. Buckland exhibited and made remarks on other specimens of Salmonoids reared in fresh water.

Dr. Günther maintained that there was no sufficient evidence to prove that the ova from which these fishes had been hatched were really those of *Salmo salar*. Judging by the specimens themselves he believed them to be more probably young of some species of Lake-Trout or hybrids between two different species of *Salmo*.

The following papers were read :—

1. Notes on Baker's Antelope (*Hippotragus bakeri*). By P. L. SCLATER, M.A., Ph.D., F.R.S., Secretary to the Society.

(Plate XVI.)

In an article upon the Antelopes and Buffaloes of North-eastern Africa, published in the 30th volume of the 'Nova Acta Academiæ Leopoldino-Carolinæ'*, the well-known traveller and naturalist Th. v. Heuglin has given a description of a new Antelope of the genus *Hippotragus*, and named it after our illustrious countryman Sir Samuel Baker, by whom it was discovered and communicated to the author.

When visiting the Royal Menagerie at Turin last summer, I was shown a young male Antelope, recently received from Dr. Ori, the

* "Ueber die Antilopen und Büffel Nord-Ost-Afrikas. Von Th. v. Heuglin." Jena, 1863. Herr v. Heuglin gives the following description of this Antelope:—

Cornua in utroque sexu; his robustis, basi rotundatis et approximatis, arcuatis, recurvatis, vix ad apicem annulatis.

Pallide hepatico-fulvescens, fronte, macula oculari, striisque humeralibus 3-4 vix obliquis, nigris; juba collaris et dorsalis longa, nigerrima; rostri apicis albido.

"The thickening of the horns above the base in this species is very peculiar. In two examples the tip of the horn lies outside the segment of the circle which the horn itself describes, and is slightly, although quite noticeably, directed outwards. A pair of horns from Setit, which I also ascribe to this species, are about one-third smaller, and the horns form a perfectly regular arc of almost 90°. In the adult animal the mane is very long, particularly upon the base of the hinder neck, and erect; also the front part of the neck appeared to me (as far as I could see at a distance of 80 paces) to be provided with a mane. The footprint of the beast is very large and broad.

"The animal lives in large herds, containing about thirty individuals, on the Qualabat, on the Djebel Qedani, on the Bahr Salâm, on the Atbara, in Eastern Sennaar, and on this side of Fazogloa on the Djebel Qûd, Rorah, &c. It is only met with in open places, and is, moreover, so shy and swift that it can be caught only with the best horses.

"I have only once had the opportunity of seeing this beautiful Antelope, which is of the size of a Horse; on the other hand, I have to thank for most of the particulars here given the English traveller S. W. Baker, who brought the horns with him from the Atbara."



1891

W. N. Harhart

HIPPOTRAGUS BAKERI ♂ jr



King of Italy's agent at Chartoum, which was quite unknown to me, but which I at once recognized as belonging in all probability to the species described by v. Heuglin. In order to ascertain whether my supposition was correct, M. Comba, the Director of the Royal Menagerie, most kindly promised to have a figure made of the animal, so that it might be compared with v. Heuglin's description, which was inaccessible to us at Turin. The receipt of the excellent coloured photograph which I now exhibit (see Pl. XVI.) has enabled me to make this comparison; and I can now state, without fear of error, that the Antelope at Turin is unquestionably a young male *Hippotragus bakeri*. I am further confirmed in the correctness of my opinion by the testimony of Sir Samuel Baker, who has examined the photograph and kindly supplied me with the following notes upon the animal and its habits*.

"The Maarif, or *Hippotragus bakeri*, was first seen by me in 1861, at the western base of the lofty chain of mountains that walls in Abyssinia from the Egyptian territory. In this country it is by no means rare. I subsequently met with the same animal in the La-tooka country in 4° 20' N. lat., 32° 40' E. long.

"The Maarif is the largest of all the Abyssinian and Nubian Antelopes; it averages about 14 hands in height at the withers, which are extremely prominent. Its colour is mouse-grey, with black stripes across the shoulders and white markings on the nose and cheeks. The neck, both above and below, is protected by a stiff and coarse black mane, which stands erect like that of a hob-maned horse. Both males and females have horns; these are annulated and exceedingly powerful, they bend gracefully backwards.

"The Maarif is most difficult to approach, as it inhabits extensive plains, where the rifle has little chance at the extreme range which this Antelope invariably observes. In habits of watchfulness it is only equalled by the Giraffe. I have frequently remarked that the main body of the herd is protected while grazing by one or more of the party, who act as sentries and give alarm at the approach of danger. When arriving at the banks of a river, a herd of Maarifs never descend to the water until one or two have gone forward as an advanced guard. These narrowly scrutinize all sides, while the expectant herd waits their decision, and, although painfully thirsty during the hot season, they never drink until the leaders have assured them of safety.

"The margins of rivers are generally covered with thick bush, the resort of Lions and Leopards, which lie in ambush for the animals which visit the drinking-place; hence the extreme caution of the wary Antelope.

"The country in which the Maarif is most numerous is that between the Bahr Salaam and the mountain Nahoot Guddavi at the western base of the Abyssinian Alps. Throughout this district I have seen large herds of this Antelope; but the nature of the soil is so much against Horses that it would be impossible to overtake the

* See also Sir Samuel Baker's remarks on this animal in the 'Nile Tributaries of Abyssinia,' p. 475.

Maarif by riding. But the Hamran Arabs possess a fine breed of Greyhounds, by the aid of which there would be no difficulty in procuring specimens of it."

Sir Samuel Baker has also favoured me with the loan of a leaf from his original note-book containing a pencil-sketch of the adult male of this species. The elongated mane and the shoulder-stripes are clearly marked in this sketch.

Fig. 1.

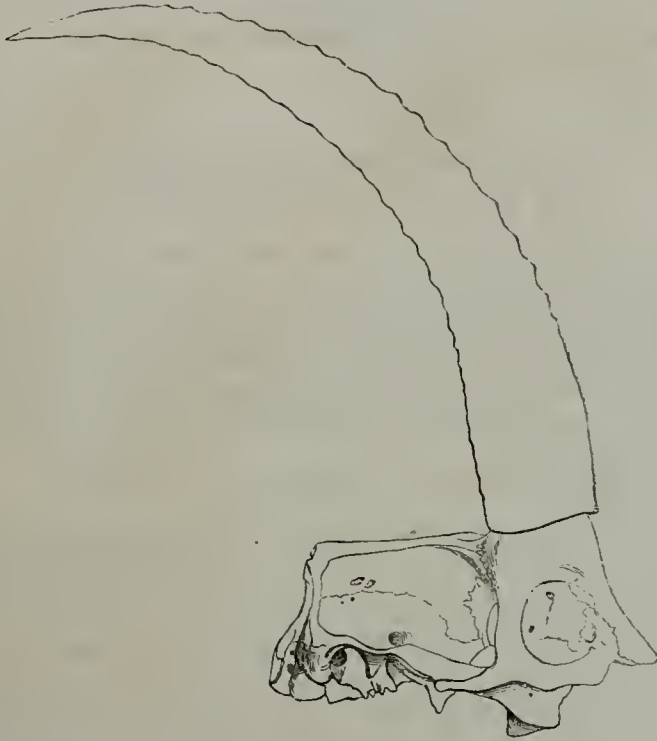


Horns of Baker's Antelope, from the typical specimen.

A fine pair of horns of Baker's Antelope, for the loan of which I am also indebted to Sir Samuel Baker, are the original specimens figured by Henglin (*l. c.* figs. 6*a* and 6*b*). They measure 27 inches in length along the upper surface from the base to the tip, and are regularly annulated up to about six inches from the tips, the annulations being about 27 or 28 in number. Upon comparing them with horns of

Hippotragus equinus in the British Museum and the collection of the Royal College of Surgeons, I find the differences, as might have been expected, very small. But, judging from the single pair before us, the horns of the northern species appear to be much more massive, especially at the base, and not quite so long, and to have the tips *diverging* instead of slightly converging. This latter character may perhaps vary in individuals.

Fig. 2.



Outline of right horn of Baker's Antelope, from the typical specimen.

As regards the general external appearance of Baker's Antelope, it would seem to be readily distinguishable from the Equine Antelope by the pale fulvous colour, the pencilled ears, and the black stripes over the shoulders, which, although not distinguishable in the young specimen now at Turin, are, as is shown in Sir Samuel Baker's sketch, well marked in the adult.

There can, I think, therefore, be no doubt that Baker's Antelope constitutes a good species of the genus *Hippotragus*, of which there are three distinct species known, namely:—

1. HIPPOTRAGUS EQUINUS.

Antilope equina, Geoffr.

H. equinus, Sund.

Aigoceros equina, Smith, Ill. Zool. S. A. i. t. xxviii.

Hab. Northern confines of Cape Colony, now almost extinct (*Smith*)*.

2. HIPPOTRAGUS BAKERI. (Pl. XVI.)

Hab. Upper Nubia.

3. HIPPOTRAGUS NIGER.

Aigoceros niger, Harris, Trans. Zool. Soc. ii. p. 216, t. 39.

Hab. Transvaal republic (*Harris*); Zambesia (*Peters* & *Kirk*); Uniamuezi (*Speke*); Southern Kordofan (*Prüßsenayer*).

2. ON FOUR NEW SPECIES OF BIRDS.

By JOHN GOULD, Esq., F.R.S. &c.

BRACHYPTERYX (DRYMOCHARES) STELLATUS, sp. nov.

Forehead, ear-coverts, breast, chest, and abdomen grey, crossed by numerous narrow wavy lines of black; at the tip of each of the feathers of the abdomen, flanks, under (and some few of the upper) tail-coverts an irregular arrowhead-shaped mark of white; lores black; all the upper surface, wings, and tail chestnut-red; bill black; feet brown.

Total length $4\frac{1}{2}$ inches, bill $\frac{5}{8}$, wing $2\frac{3}{4}$, tail 2, tarsi $1\frac{1}{4}$.

Hab. Nepaul.

Remark.—I am indebted to Lieut. C. V. Eccles, of the Rifle Brigade, for one of the two specimens of this interesting species, brought by him, with other birds, from the rich country of Nepaul. Unfortunately he could not give me any precise information as to where his specimens were procured, further than that he believes they were shot on the dense scrubby side of the mountains, at an elevation of about 10,000 feet. In its structure and in its dense and silky plumage this bird is so closely allied to the smaller members of the genus *Brachypteryx* as scarcely to be removeable from them; and I should not have ventured to suggest a separate generic title, were there not so great difference in its colour and markings. The beautiful stellations of the breast render it specifically different from every other bird with which I am acquainted, while the black crescentic wavy lines of the chest and the chestnut colouring of the back distinguish it from all the species of the genus *Brachypteryx*, to which in the lengthened form of its thighs, tarsi, and toes, it bears a striking resemblance.

Ornithologists may please themselves as to the adoption or rejection of the new generic name proposed. Some may be inclined to

* I think it doubtful whether the West-African animal, of which the horns were obtained by Whitfield (Cf. Gray, P. Z. S. 1850, p. 133), is really of the same species. *A. leucophæa* of Pallas, however, is probably nothing more than *H. equinus*.

regard the bird as a member of the old genus, while others may consider its colour, markings, and *tout ensemble* sufficiently different to justify the divisional name of *Drymochaeres*. In size the bird is about twice that of the English Wren, *Troglodytes europæus*.

STURNUS PURPURASCENS, sp. nov.

Face, head, throat, and neck deep bronze, passing into green on the upper part of the back and breast; lower portion of the back and upper tail-coverts purplish blue; abdomen dusky brown, with a bronzy lustre; wing-coverts deep coppery or bronzy red; wings greyish brown, each feather bordered by a velvet-like line of black, showing very conspicuously on the tips of the secondaries; tail similar, but the velvet edging not so well defined; under tail-coverts black, tipped with white. A few of the feathers on the upper part of the back and on the upper tail-coverts with a spot of white at the tip; bill yellow; feet reddish-brown.

Total length $8\frac{1}{2}$ inches, bill $1\frac{1}{4}$, wing $5\frac{3}{4}$, tail 3, tarsi $1\frac{1}{8}$.

Hab. Erzeroum.

Remark.—I have had in my collection for many years three skins of a very beautiful Starling, all collected in Erzeroum, two of which are adult and one a yearling bird. Compared with *Sturnus vulgaris* on the one hand and *S. indicus* on the other, this bird will be found to differ in a remarkable manner from both. In size it is considerably larger than either, while in colouring it is sufficiently different to constitute it a new species. Beautiful as is our own Starling, the Erzeroum bird far exceeds it even in its finest nuptial and breeding dress, the entire back being of a lovely purple, while green is the prevailing tint of that part of *S. vulgaris*; the resplendent bluish-green of the wings of the European bird is replaced in the new species by shining coppery red, the lengthened plumes of the chest are bluish green instead of coppery, and the breast is coppery instead of the green or bluish green seen in *S. vulgaris*. The two birds, in fact, present a singular transposition of colouring; and the Erzeroum bird, for which I propose the name of *S. purpurascens*, is, as above stated, by far the finest of the two. The adults, as in *S. vulgaris*, are more or less speckled with white at the tips of the feathers of the back, according to age; and the young of the year presents all the characters of the adult, so far as regards the purple colouring of the back and the bronzy red of the wings, but, as is the case with a specimen of our own Starling of the same age, has the entire plumage very distinctly guttated with white, while the bill, as is usually the case, is of a dark hue.

AULACORHAMPHUS SEXNOTATUS, sp. nov.

Bill chestnut-red, with the centre of the culmen above almost black; sides of the base of both mandibles edged with white, much more broadly on the lower than on the upper; crown and all the upper surface green, tinged with sulphur, deepest on the shoulder; on the rump a spot of blood-red; bare eye-orbits dull brownish

red; above and rather behind the bare orbital space a mark of greyish blue, and on the cheeks, next the bill, is a patch of parer blue; throat and all the under surface lively grass-green, with a tinge of blue on the lower part of the breast, forming an obscure halfmoon-shaped mark; lower part of the abdomen and under tail-coverts of a yellower and more lively grass-green than the throat; two outer tail-feathers on each side green, the remaining six dull blue, tipped with deep chestnut-red, except the third from the centre, in which the chestnut only occurs on the inner web.

Total length $14\frac{1}{2}$ inches, bill $2\frac{7}{8}$, wing $5\frac{1}{4}$, tail $6\frac{1}{4}$, tarsi $1\frac{1}{2}$.

Hab. Unknown; supposed to be Peru.

This species is about the size of *A. hæmatopygius*, but it differs from that bird, and also from its larger near ally *A. castaneorhynchus*, in the third feather of the tail having the chestnut mark at the tip on the inner side only; from the former it also differs in the possession of a dull blue mark over the eye, a character found in *A. castaneorhynchus*, but from which species its diminutive size, as well as the greater number of the tail-feathers being tipped with chestnut, will at all times distinguish it.

PODICEPS MICROPTERUS, sp. nov.

Crown of the head and the ornamental diverging plumes chestnut-red at the base, their tips being black; back of the head and nape chestnut-red, passing into the brown of the back and upper surface generally, the feathers of which, particularly those of the rump, are interspersed with chestnut-red; throat, cheeks, and fore part of the neck white; under surface mottled silvery grey, brown, and chestnut; upper mandible apparently reddish brown; the lower one is bright yellow throughout its entire length; feet apparently olive.

Total length 12 inches, bill $2\frac{1}{2}$, wing 4, tarsi $1\frac{3}{4}$.

Hab. Lake of Titicaca in South America.

Remark.—This very singular bird, which is about the size of *Podiceps rubricollis*, has a very stout bill, and a crest which reminds one of some of the species of the genus *Eudypetes*. Its apology for a wing renders it specifically distinct from every known member of its family; and it is questionable if it be not the smallest-winged bird, for the size of its body, yet discovered.

For this new and valuable acquisition to ornithological science I am indebted to David Forbes, Esq., a gentleman too well known as a traveller and as a scientific man to require any eulogium from me. I will merely, therefore, offer him my thanks for bringing me the present bird, which was killed by himself on the Lake of Titicaca, in Bolivia, as well as for several specimens of Humming-birds which also fell to his gun during his stay on the elevated lands of the southern hemisphere.

I cannot conclude this paper without remarking the prevalence of birds in the southern division of the world with diminutive wings, some being almost apterous, while others have these organs reduced to such a small size that they cannot be of the slightest service for



A G Butler del et lith Feby 1868

M & N Hanhart imp

NEW OR RARE LEPIDOPTERA .

flight; I allude to the Penguins and the Steamer-Ducks among the Waders, some of the Rails and Gallinules, the apterous group of New-Zealand birds, the living Rheas, Cassowaries, Ostriches, &c.

3. Descriptions of New or little-known Species of Lepidoptera. By ARTHUR G. BUTLER, F.L.S., F.Z.S.

(Plate XVII.)

Genus IDMAIS, Boisd. (1836).

IDMAIS TRIPUNCTA, sp. nov. (Pl. XVII. fig. 9.)

Affinis Idmaidii fulviæ (Wallace, Monog. Pierid.), alis autem anticis supra, area apicali, maculas tres solum includente, posticisque maculis marginalibus majoribus subquadratis: subtus fundo vivide flavescente, margine interno posticarum ciliisque anticarum lætissime fulvescentibus; maculis transerrantibus postmediis fulvis fuscoratis: stigmatе anticarum nigro majore.

Exp. alar. unc. 2.

Hab. India (Coll. Roberts).

This species is nearly allied to *I. fulviæ*, Wallace (Ent. Soc. Trans. 3rd ser. vol. iv. pt. 3. p. 392. n. 5, pl. 9. fig. 5), of which it is probably a local form. The exact locality of *I. tripuncta* has not been clearly ascertained.

Genus ACRÆA, Fabricius.

Section PLANEMA, Doubleday (1848).

PLANEMA MACARINA, sp. nov. (Pl. XVII. fig. 6.)

♂. *Affinis* P. macariæ (Fabricius), area autem discoidea anticarum fusca, et fascia transversali ferruginosa pone cellam alarum margini subparallela: punctis basalibus posticarum paucis, aliquando cœuntibus.

Exp. alar. unc. $2\frac{5}{16}$ — $2\frac{11}{16}$.

Hab. Gold Coast (Colls. Swanzy, Trimen, B.M.).

B.M.

Allied to *P. macaria*, but smaller; the cell of the fore wings blackish brown, the transverse band slanting inwards instead of outwards, and the black spots on its inner edge also following in the same direction; the basal spots of the hind wings smaller, and on the under-side occasionally running together.

Genus CIRROCHROA, Doubleday (1848).

CIRROCHROA JOHANNES, sp. nov. (Pl. XVII. fig. 10.)

♂, ♀. *Affinis* C. bajadetæ (Moore), margine autem posticarum supra haud nigro, punctisque nonnullis pone cellæ anticarum finem

nigris, linea interrupta transversali ad angulum ani posticarum continuatis : fascia marginali nigra, anticarum quoque lineas duas undatas (internam vix visam) exhibente.

Alæ maris subtus roseo-aurantiuæ, stria media argentea posticarum regulari bene expressa, anticarum autem subtriangulari diffusa, fulvo utrinque limitata ; striolis quinque basalibus, fascia submarginali undata bene expressa et margine externo fulvis ; punctis tribus lunulatis subapicalibus argenteis diffusis : posticæ punctis sex nigerrimis postmediis, fulvo late cinctis : ulæ femine subtus roseo-cinereis, area discali virescente ; fasciis omnibus brunneis ; aliter velut in mare.

Exp. alar. unc. $2\frac{3}{8}$ – $2\frac{5}{8}$.

Hab. Malacca (*Coll. Roberts*).

This beautiful species is allied to *C. bajadeta* and *C. ravana* of Moore, but is very distinct from both.

GENUS CRENIS, Doubleday (1849).

CRENIS AMULIA, Cramer. (Pl. XVII. figs. 3 & 4.)

Papilio amulia, Cramer, Pap. Exot. ii. pl. 180. figs. C, D (1779).

Papilio amalia (sic), Fabricius, Ent. Syst. iii. pt. 2. p. 129, n. 398 (1793); Donovan, Nat. Rep. ii. pl. 40 (1824).

Hab. Sierra Leone and Old Calabar (*Coll. Druce*).

This beautiful species is little known, and is very rare. Mr. Hewitson has, I believe, three specimens in his collection; and Mr. Druce lately picked up in an Old-Calabar collection a shattered example, from which I have made my figure*. Cramer's figure is scarcely recognizable.

GENUS EURYPHENE, Westwood (1850).

EURYPHENE SWANZYANA, sp. nov. (Pl. XVII. figs. 7, 8.)

♀. *Alæ supra fusæ, apice anticarum niveo ; fascia discali cæruleo-violacea, anticis abbreviata interno-anali.*

Alæ subtus roseo-cinereæ, squamis viridibus, præcipue apud basin, adpersæ ; puncto anticis et macula posticis discoideis, nigris ; maculis tribus anticis et quinque posticis niveis discalibus : anticis quoque macula velut supra apicali : corpus supra nigro-fuscum, subtus lateribus viridibus, thorace medio ochreo ; palpis ochreis ; antennis nigris, ochreo clavatis.

Exp. alar. unc. $3\frac{6}{8}$.

Hab. Gold Coast (*Coll. Swanzy*).

This remarkable species seems almost to link the two genera *Romaleosoma* and *Euryphene*; it has the discoidal cells almost entirely open, and in form, size, and the coloration of the upperside appears to be nearly allied to *R. eupalus* of Fabricius; on the underside it more nearly approaches *R. losinga* of Hewitson. I believe, however,

* Mr. Druce has since obtained a second example in somewhat better condition.

that its truest position will be next to *Euryphene sæmis* of Hewitson. The specimen is kindly lent to me for description by Mr. Andrew Swanzy, of Lee, after whom I have named the species.

Genus ZERITIS, Westwood (1852).

ZERITIS THYSBE, Linn., aberration. (Pl. XVII. fig. 5.)

Alis supra fundo basali cæruleo nitidissimo et post alarum medium extenso, colorem discalem aurantiacum expungente; margine externo late nigro, cæruleo partim tincto, et a lunulis aurantiacis lilacino tinctis intus limitato: alis subtus velut in Thysbe (formæ communis).

Hab. Plattekliip, Table Mountain (*Coll. Trimen*).

This singular and very beautiful variety of *Z. thysbe* is in the Collection of Mr. Roland Trimen, who in the Appendix to the second volume of his 'Rhopalocera Africæ Australis' makes the following observations respecting it:—"Herr Gross has shown me an extraordinary variety or 'sport' of the ♂ of that form (*thysbe*), which he captured near Plattekliip, on the ascent of Table Mountain. In the last-named specimen *the blue suffusion is of unusual brilliancy and extent*, completely obliterating all the orange of *fore wing* as well as the spots, but leaving a very broad apical and narrow hind-marginal black border, edged outwardly by the usual small orange lunules; while in the *hind wing* the blue extends to beyond middle, but leaves a broad orange border of even width along hind margin: the markings of the under surface, however, remain as usual, but are strongly defined; the fore wings are acutely angulated, and the projections of hind wings unusually long.

"The beauty of Herr Gross's specimen is most striking, far exceeding that of the most perfect of ordinary examples."

Mr. Trimen afterwards obtained this specimen at a sale, and has kindly lent it to me to figure. He informs me that there is another, similar but somewhat larger, specimen of this aberration in the Burchell Collection (Hope Museum), taken, however, at Genadendal (Cape Colony) in the year 1815.

Genus MESSAGA, Walker (1854).

In his 'Lepidoptera Heterocera,' pt. 2. p. 358, Mr. Walker has characterized a genus under the above name, the type of which is the *Hesparia* of Cramer (Pap. Exot. vol. i. pl. 56. fig. C). Mr. Swanzy having lent me a second species, I referred to the specimens in the National Collection, and found three species representing *Hesparia*: the specimens, however, representing two of the above species want the abdomen, which appears to be a strong character for at once distinguishing them; so that it was natural that they should have been looked upon as merely varieties of one type.

I much doubt if we actually possess the Cramerian species; for even the most nearly allied form in the National Collection, though nearly agreeing with his figure in the banding of the wings, differs considerably in size and general coloration. The only perfect specimen representing the species (and the true type of Mr. Walker's genus) differs considerably from *Hesparia*, but more particularly in the golden colour of the anal tuft of its abdomen, that of *Hesparia* being scarlet; the third specimen, agreeing with Mr. Swanzy's insect, differs chiefly in the form and position of the central white band.

The two following may therefore be characterized as follows:—

MESSAGA MARITONA, sp. nov. (Pl. XVII. fig. 1.)

Messaga hesparia (part.), Walker [type].

♂. *Alæ nigræ, purpureo cyaneoque nitentes; fascia regulari transversali ad angulum ani posticarum extensa, nivea; venis supra cæruleis: corpus viridi-nigrum; capite, palpis, prothorace et pedibus anticis coccineo hirtis; cauda fulvo hirta.*

Hab. Sierra Leone.

B.M.

Presented to the Collection by the Rev. D. F. Morgan.

MESSAGA DELICIA, sp. nov. (Pl. XVII. fig. 2.)

Messaga hesparia, b. (part.), Walker.

♂. *Affinis M. hespariæ: alis nigris, cæruleo venosis albo irregulariter fasciatis; fascia anticarum in medio extus producta, posticarum undata, alarum margini subparallela nec ad angulum ani extensa: alis subtus haud cæruleo venosis, aliter similibus: corpus supra nigrum, capite, palpis, prothorace, pedibus anticis caudaque coccineo hirtis.*

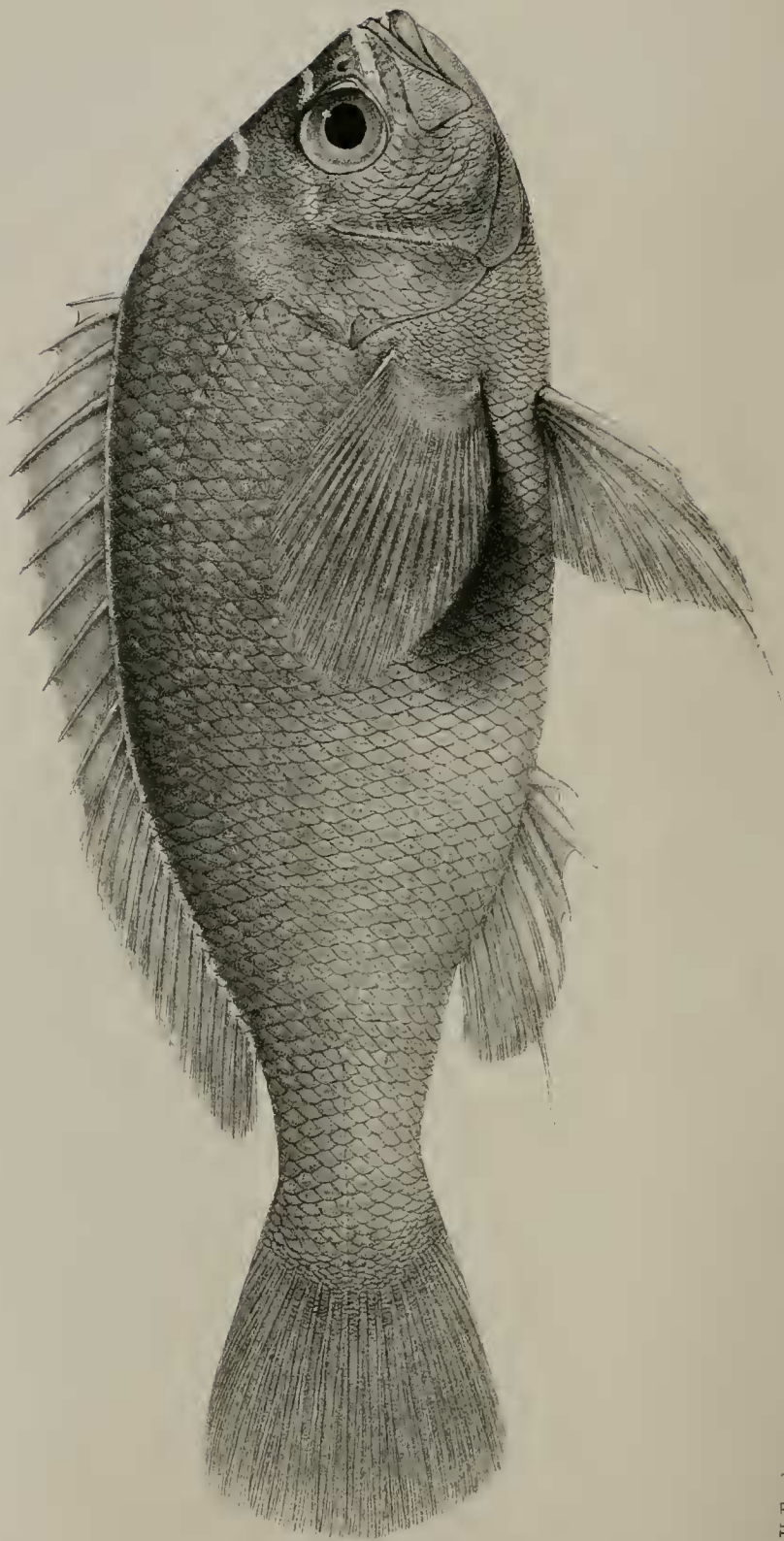
Exp. alar. unc. $1\frac{1}{16}$.

Hab. Gold Coast (*Colls. Swanzy and B. M.*).

Nearly allied to *M. hesparia*, with which it agrees in the colour of the anal tuft, but differs entirely in the form of the transverse white bands. This species seems to vary slightly in the outline of the fore wings; for the Museum specimen has them pointed at the apex as in *M. maritona*.

DESCRIPTION OF PLATE XVII.

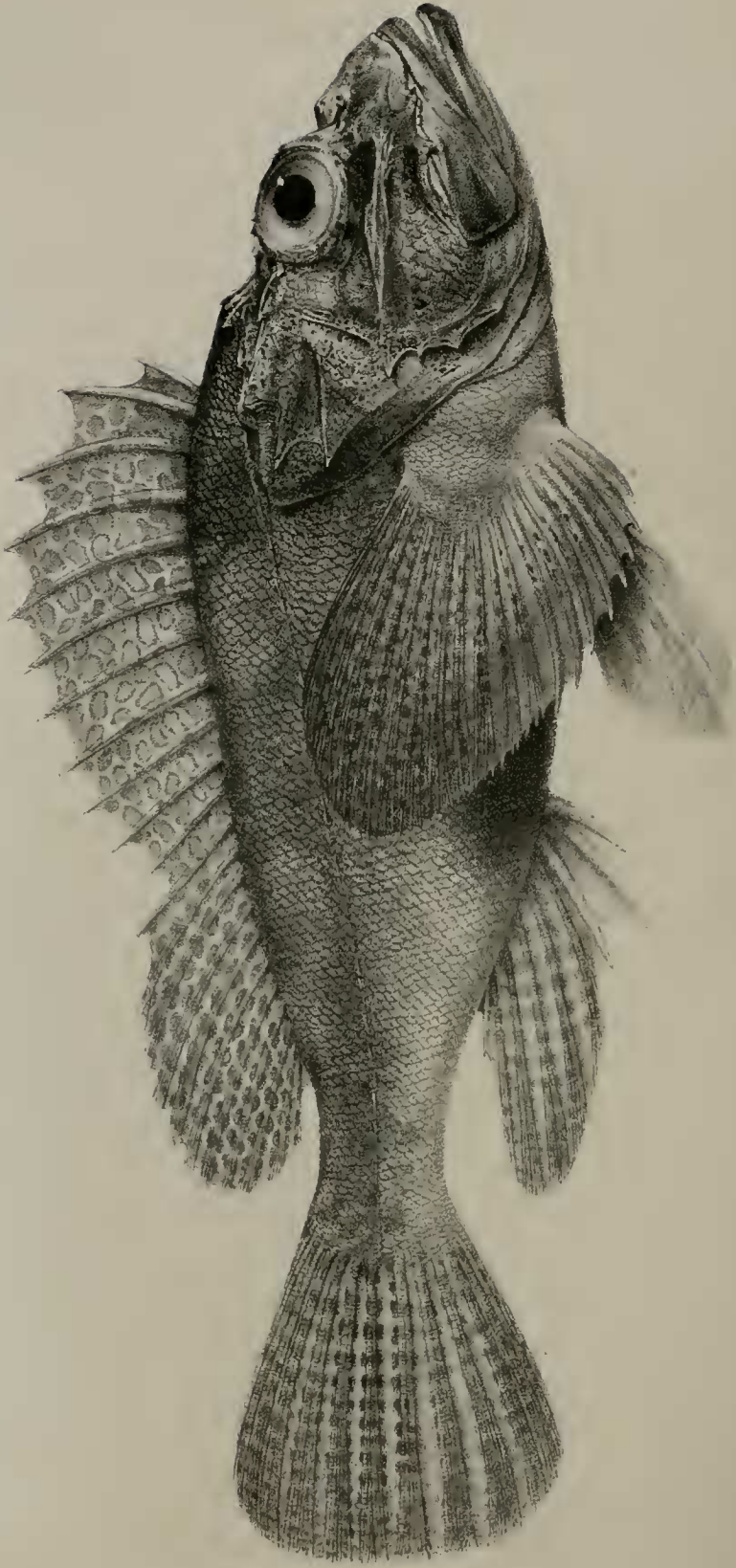
- Fig. 1. *Messaga maritona*, p. 224.
 2. ——— *delicia*, p. 224.
 3, 4. *Crenis amulia*, p. 222.
 5. *Zeritis thysbe*, p. 223.
 6. *Planema macarina*, p. 221.
 7, 8. *Euryphene swanzyana*, p. 222.
 9. *Idmais tripuneta*, p. 221.
 10. *Cirrochroa johannes*, p. 221.



G. H. Ford

ANTHIAS FRONTICINCTUS.

W. West imp.



4. Report on a Collection of Fishes made at St. Helena by
J. C. Melliss, Esq. By DR. ALBERT GÜNTHER, F.R.S.,
F.Z.S., &c.

(Plates XVIII. & XIX.)

The British Museum has lately received a collection of very fine examples of marine Fishes made at St. Helena by J. C. Melliss, Esq. Various naturalists have brought to Europe collections from that island; but they were all made during a more or less hurried visit, and I believe that Mr. Melliss is the first resident on the island who has paid attention to this subject. The number of species contained in this first collection is not great; yet there are several which are apparently undescribed, and others new to this part of the Atlantic fauna. I have no doubt that Mr. Melliss will be richly rewarded by discoveries if he continues his researches, and that the fish-fauna of St. Helena will prove to be quite equal to that of Madeira in extent as well as in interest. In the following list I have marked the localities from which the species were previously known, thereby indicating the affinity of this fauna to those of other parts of the Atlantic:—

1. *Holocentrum langipinne*, C. & V. West Indies.
2. *Centropristis brasiliensis*, Barnev. West Indies.
3. *Holanthias fronticinctus*, sp. n. St. Helena.
4. *Serranus impetiginosus*, Müll. & Trosch. West Indies.
5. *Rhypticus saponaceus*, Bl. Schn. West Indies, Cape of Good Hope, Cape Verde Islands.
6. *Priacanthus boops*, Forst. St. Helena.
7. *Priacanthus*, sp. n.?
8. *Apogon axillaris*, Val. Island of Ascension.
9. *Pomatomus telescopium*, Risso. Mediterranean and neighbouring parts of the Atlantic.
10. *Sargus capensis*, Smith. Cape of Good Hope.
11. *Chaetodon sanctæ helenæ*, sp. n. St. Helena.
12. *Cirrhichthys fuscatus*, C. & V. Pondicherry.
13. *Sebastes nigropunctatus*, sp. n. St. Helena.
14. *Scorpæna mellissi*, sp. n. St. Helena.
15. *Scorpæna scrofina*, C. & V. Brazil.
16. *Thyrsites prometheus*, C. & V. Madeira.
17. *Scomber colius*, Gm. North Atlantic.
18. *Echeneis naucrates*, L. Tropics.
19. *Caranx muroadsi*, Schleg. Japan.
20. *Caranx dentex*, Bl. Schn. From the Mediterranean to the coast of Brazil.
21. *Seriala lalandii*, C. & V. Atlantic, Japan, Australia.
22. *Lichia glauca*, L. Mediterranean, Atlantic.
23. *Xiphias gladius*, L. Mediterranean, Atlantic.
24. *Salarias atlanticus*, C. & V. Madeira, Atlantic, Panama.
25. *Aulostoma coloratum*, Müll. & Trosch. West Indies.

26. *Pomacentrus leucostictus*, Müll. & Trosch. West Indies.
27. *Glyphidodon saxatilis*, L. West Indies.
28. *Heliastcs insolatus*, C. & V.* West Indies, coast of Peru.
29. *Cossyphus pectoralis*, Gill (probably = *C. pulchellus*, Poey).
Pacific coast of Central America, ? West Indies.
30. *Novacula sanctæ helenæ*, sp. n. St. Helena.
31. *Julis sanctæ helenæ*, C. & V. St. Helena.
32. *Scarus strigatus*, Gthr. St. Helena.
33. *Physiculus dalwigkii*, Kaup. Madeira.
34. *Rhomboidichthys*, sp. n. ?
35. *Belone loyii*, Gthr. Cape Verde Islands.

The determination of the Eels, Sharks, &c. is reserved for the new volume of my 'Catalogue of Fishes.'

ANTHIAS FRONTICINCTUS. (Plate XVIII.)

B. 7. D. $\frac{10}{15-16}$. A. 7. L. lat. 52.

Posterior margin of the caudal fin convex. The second ray of the pectoral and the third of the anal more or less produced into a filament. Teeth of the upper jaw separated by a toothless interspace; two pairs of canine teeth in the upper jaw, one pair in front and the other more inwards. Lower jaw with a pair of subhorizontal canine teeth in front, and with one or two pairs of erect teeth on the side. Band of vomerine teeth lancehead-shaped. Tongue with a large ovate patch of teeth. Three (in spirits) white bands across the snout, forehead, and occiput; a white line along the base of the dorsal fin, which has a white margin.

This species may be regarded as the type of a distinct generic division (*Holanthias*), distinguished from *Anthias* by its convex caudal fin.

Two specimens, 9 inches long (29).

Description.—The height of the body is one-third of the total length (without caudal). Muzzle short and obtuse. The length of the head is contained thrice and two-thirds in the total length (without caudal). Diameter of the eye equal to space between the eyes, greater than extent of snout, and contained thrice and three-fourths in the length of the head. Head covered with smaller scales than those of the trunk. Cleft of mouth very oblique; upper maxillary widening suddenly, and reaching to the vertical from centre of eye. Præorbital narrow, half as broad as maxillary. Crown rounded, convex. Præoperculum with fine serrature along hinder limb, with some coarser points at the angle and several coarse denticulations along the lower limb. Sub- and interoperculum entire. Operculum with three flat short spines, the upper of which is hidden by the scales, the middle one pointed and the longest, the lower one being very short, but apparent, and almost immediately beneath the middle one.

Dorsal fin commencing rather before the posterior margin of the operculum; spinous portion rather lower than the soft, but as long;

* = *Heliastes crusma*, C. & V.

spines slender, subequal in length from the third, which is the longest; the first spine is more than half the diameter of the eye, the second longer and somewhat more than half the length of the third. The membrane between the spines is but slightly notched, and emits a very small filament behind the tip of each spine. The anterior part of the spinous portion can be nearly concealed in a sheath. Soft portion rather higher, with upper margin nearly straight; rays subequal, the eleventh rather the longest and longer than any of the spines; the posterior rays somewhat diminishing in length.

Caudal rounded, covered for some distance between the rays by small deciduous scales.

Anal rather more elevated than dorsal, with the third ray longest and sometimes produced into a filament; second spine rather stronger but shorter than the third, which exceeds in length the last dorsal spine. Pectoral nearly reaching to commencement of anal, with twenty rays, the middle ones the longest, the others rounded off towards the outer margins of the fin.

Ventrals reaching to vent, with the second ray sometimes produced into a long filament, reaching slightly beyond the commencement of the anal, the spine exceeding the third of the anal by about one-fourth of its length.

Scales of moderate size, nearly twice as high as long; each has its base covered by one or more very small scales.

CHÆTODON SANCTÆ HELENÆ.

D. $\frac{13}{21-22}$. A. $\frac{3}{19}$. L. lat. 53.

The snout is slightly produced, a little longer than the eye, with the upper profile concave; præoperculum not serrated. The soft portions of the dorsal and anal fins low, regularly rounded. Body uniform olive-coloured; the ocular band is much narrower than the orbit, and much fainter below the eye, not extending downwards beyond the præoperculum. The outer half of the dorsal and anal fins is yellow, with a narrow black edge, the yellow colour crossing the caudal peduncle; caudal and ventral fins uniform light-coloured.

This description is taken from two examples (31), $5\frac{1}{2}$ inches long. Mr. Melliss has sent a third (63), which represents a curious uniformly coloured variety without ocular band.

SEBASTES NIGROPUNCTATUS.

D. $\frac{12}{10}$. A. $\frac{3}{5}$. P. 18. L. lat. 52.

The height of the body is contained thrice in the total length (without caudal), the length of the head twice and one-third. None of the dorsal spines prolonged; no orbital tentacle. Reddish-rose-coloured, with numerous brownish-black dots, between which white specks are scattered.

Two examples (30), the larger being 15 inches long.

Description.—Head scaly, except the snout, which is naked. The diameter of the eye is contained once and two-thirds in the

length of the snout, and is about one-fifth of that of the head. Mouth very wide, the maxillary extending somewhat beyond the vertical from the centre of the eye. The vomerine teeth form an angular band; the band of the palatines is narrow, of moderate length; however, it varies in width and length, even on the two sides of one and the same specimen. Tongue free in front; pharynx colourless. The interorbital space is concave, scaleless. Beside the nasal spines, there is one in front of, and two above, the orbit, three spines being on each side of the nape. All the spines, also those on the side of the head, are but slightly prominent.

The dorsal spines are of moderate strength, the fourth, fifth, and sixth being the longest and about one-third of the length of the head. The second anal spine is much stronger than those of the dorsal fin. Anal fin subtruncate, half as long as the head. Pectoral nearly as long as the head, without snout, extending to the anal spines; none of the rays are branched.

SCORPÆNA MELLISSII. (Plate XIX.)

D. $\frac{12}{10}$. A. $\frac{3}{5}$. P. 12+8. L. lat. ca 60.

The height of the body is contained thrice and one-third in the total length (without caudal), the length of the head twice and a half. Eye of moderate size, its diameter being contained once and two-thirds in the length of the snout, and *twice and one-half in that of the postorbital portion of the head*. Basal portion of the operculum scaly; head without tentacles, except at the nostrils; interorbital space concave, with indistinct longitudinal ridges; vertex with a quadrangular groove, which is broader than long. The maxillary extends nearly to the vertical from the hind margin of the orbit. Palatine teeth in a short band, which is shorter than the vomer is broad. Scales smooth, irregularly arranged, those of the lateral line being much the largest. Dorsal spines long, slender; the fourth, fifth, and sixth are the longest, two-fifths as long as the head; anal spines stronger but shorter than the spines just mentioned. Pectoral fin extending to below the fourth ray of the dorsal, ventral to the third anal spine.

Body nearly uniform brownish grey; head with numerous brown dots; each dorsal, caudal, and pectoral ray accompanied by a series of small subquadrangular brown spots. Axil of the pectoral colourless.

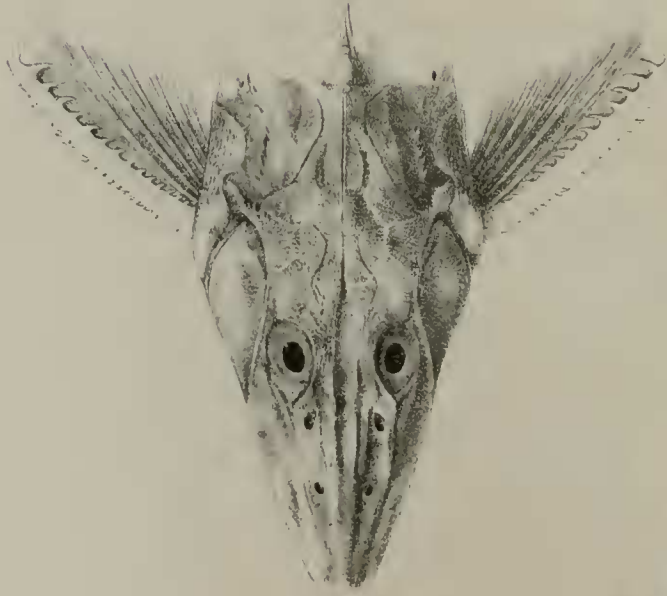
One specimen, 11 inches long.

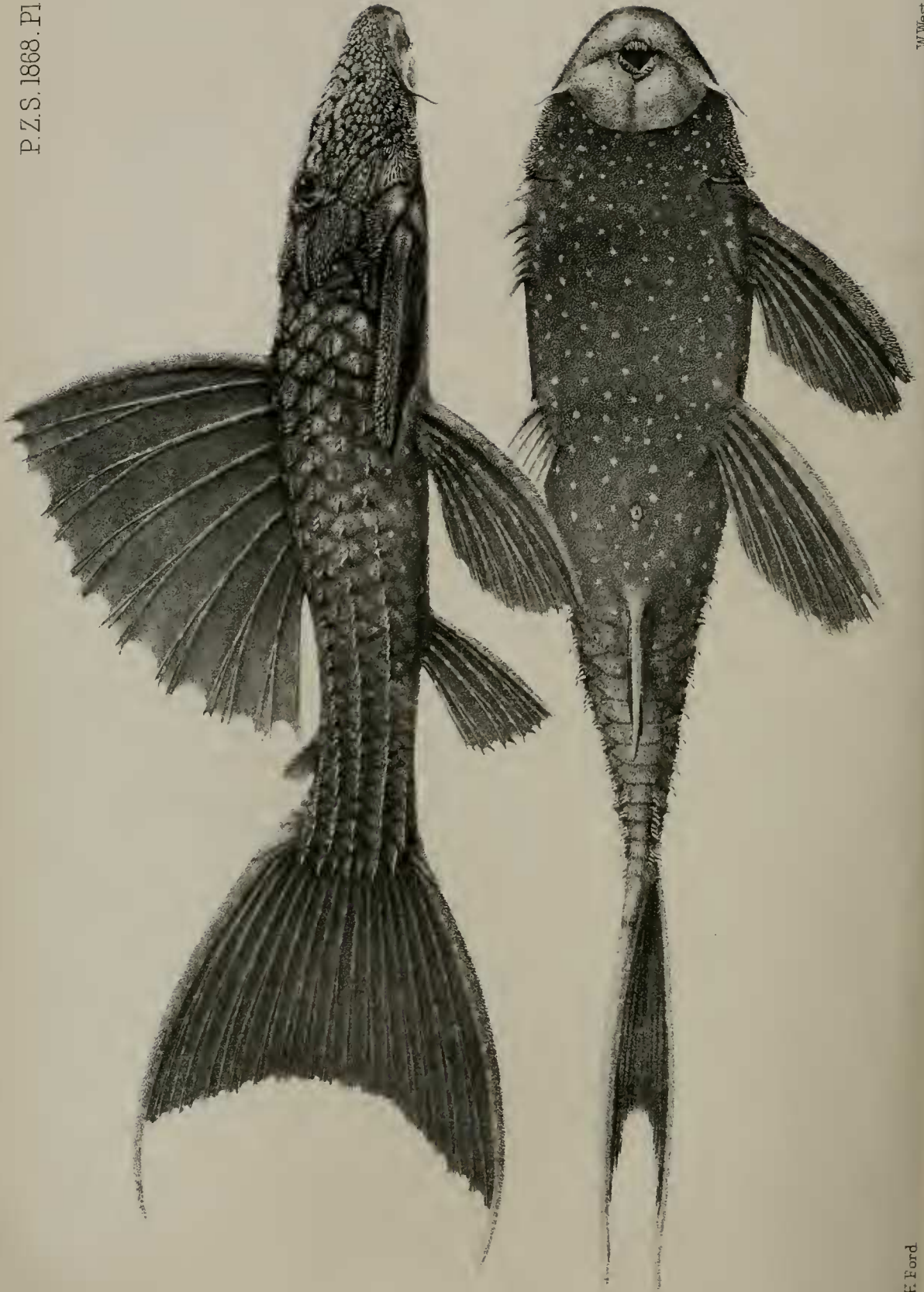
NOVACULA SANCTÆ HELENÆ.

D. $\frac{9}{12}$. A. $\frac{3}{12}$. L. lat. 28.

Closely allied to *N. cultrata*. The height of the body is one-third of the total length (without caudal), the length of the head two-sevenths. A few rudimentary scales below the orbit; only the first dorsal spine is flexible. Head and body apparently without spots or streaks.

Two examples (6), 11 inches long.









Leporinus hypselonotus

5. Descriptions of Freshwater Fishes from Surinam and Brazil. By DR. ALBERT GÜNTHER, F.R.S., F.Z.S., &c.

(Plates XX., XXI., XXII.)

The British Museum received in the course of last year several collections of freshwater fishes from Surinam and Brazil. Whilst engaged in the determination and arrangement of these examples, I have found several species which do not appear to have been described hitherto. All of them belong to the *Siluridæ* and *Characinidæ*. The collections whence these examples were obtained are the following:—

1. A collection made by Mr. Edward Bartlett on the Huallaga, a tributary of the Upper Amazons, and on a smaller tributary near the town of Xeberos. This collection contained a greater proportion of new species than one made by Mr. Bartlett on the main stream, which was noticed by me in Ann. & Mag. Nat. Hist. 1866, xviii. p. 30. Besides the species which will be mentioned subsequently, the following were collected by him at Xeberos:—*Ageniosus brevifilis* (C. & V.), *Plecostomus emarginatus* (C. & V.), *Prochilodus nigricans* (Agass.), *Curimatus latior* (Spix), *Leporinus megalepis* (Gthr.), *Chalcinus brachypoma* (C. & V.), *Tetragonopterus orbicularis* (C. & V.), *Myletes duriventris* (Cuv.), *Serrasalmo humeralis* (C. & V.), *Xiphorhamphus ferox* (Gthr.), *Sternopygus virescens* (Val.).

2. A small collection from the Upper Amazons, made by Mr. Hauxwell, a correspondent of Mr. Bates, at Pebas. All the specimens contained in this collection have been previously described.

3. Two collections made by Hr. Kappler on the Maroni River, a river forming the boundary between the Dutch and French Guianas.

4. The freshwater fishes forming part of the museum of the late Dr. Van Lidth de Jeude. Unfortunately the localities whence these examples were procured are not preserved; but it is probable that the greater part, if not all, are from the Dutch possessions in Guiana, many of them being identical with species known to inhabit the fresh waters of Surinam.

DORAS HELICOPHILUS.

D. 1/6. A. 12. P. 1/8. V. 8. L. lat. 32–34.

Lateral shields well developed, entirely uncovered by the skin; the depth of the third is one-half of the length of the head, those on the tail only half as deep as the tail; their whole surface is covered with minute spines. The maxillary barbels reach to the middle of the pectoral spine, the outer of the mandible being somewhat, and the inner much, shorter than those of the maxillary. Humeral process without spines, with a very slight ridge, extending to the hinder third of the pectoral spine. The posterior lobes of

the nuchal carapace are rounded, reaching to the base of the second soft ray of the dorsal fin. Dorsal spine serrated in front and behind, the anterior denticulations being directed upwards. Pectoral spine very long, much longer than the head, extending to the ventral. Caudal peduncle shielded above and below. Uniform blackish; dorsal fin white, its middle black; base of the anal fin and the two posterior rays white.

Three examples, 14 inches long, were sent by Hr. Kappler from Surinam. This fish swallows Ampullarias of a diameter of an inch, and, after having digested the animal, passes the shells, not broken or damaged in any way. The mouth is not larger than in the allied species.

OXYDORAS ACIPENSERINUS. (Plate XX.)

D. 1/6. A. 16. P. 1/10. V. 7. L. lat. 42.

This fish is distinguished from all its congeners by the peculiar shape of the head and snout, which is elongate-triangular, pointed, and much depressed in its anterior portion. We find such modifications of form in other allied genera, and they cannot form the base for establishing distinct generic divisions.

The length of the head is nearly one-fourth of the total (without caudal); crown entirely bony to the dorsal fin; body much elongate, its greatest depth being only one-half of the length of the head. Mouth toothless. Barbels united by a broad thin membrane; the maxillary barbel is the longest, extending nearly to the root of the pectoral fin, and provided with several larger and smaller similar appendages. The outer mandibular barbel is split nearly to the base, so that the mandible appears to be provided with six barbels. Eye of moderate size, its horizontal diameter being more than the width of the interorbital space. Lateral shields very high, covering at least two-thirds of the side of the body; their margin is striated and spinous, the median spine being very strong. Humeral process obtuse, scarcely longer than high. Dorsal spine slender, shorter than the head, slightly serrated along both edges. Adipose fin low and short. Pectoral spine flat and very strong, coarsely dentated along both edges. Pectoral fin forked. Coloration uniform.

One specimen, 8 inches long, has been sent by Mr. Bartlett from Xeberos.

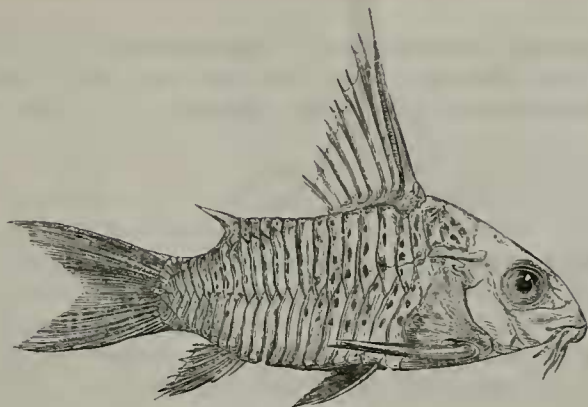
CALLICHTHYS ARMATUS. (Fig. 1, p. 231.)

This species belongs to the group with compressed head.

D. $\frac{1}{7}$ /1. A. 1/6. P. 1/8. V. 6.

Head rather higher than long; the height of the body is two-fifths of the total length (without caudal). Maxillary barbels extending to below the eye. Twenty-three series of shields in the upper series; there are four or five azygos shields before the adipose fin. Spines of the fins very strong and long; dorsal spine as high

Fig. 1.

*Callichthys armatus.*

as the body, finely serrated behind; pectoral spine rather stronger but shorter than that of the dorsal, longer than the head. Anal spine shorter and more feeble than that of the adipose fin. Olive-coloured (in spirits), the nine or ten anterior scutes with vertical series of small blackish spots.

Several examples, 2 and $2\frac{1}{2}$ inches long, were collected by Mr. Bartlett at Xeberos and on the Huallaga.

CHÆTOSTOMUS FORDII. (Plate XXI.)

D. $1/8$. A. $1/5$. P. $1/6$. V. $1/5$. L. lat. 25.

Head much depressed, elongate, its length being one-third of the total (without caudal); snout broad and elongate, the distance of the eye from the posterior end of the head being only two-fifths of the length of the snout. Eye small, one-eighth of the length of the head, and two-fifths of the width of the interorbital space, which is rather flat. Occiput terminating in a low obtuse ridge. The entire upper surface of the head is very rough, and covered with minute spines; the scutes with which the snout is covered are but loosely united, so that this part is rather soft. Interoperculum with about ten setiform spines, the longest being about as long as the eye. *Each jaw with six or seven stoutish teeth on each side; each of them has a lobe on its outer side, rather distant from the flat apex.* Lower lip not notched, with numerous papillæ. Throat, thorax, and belly naked. The first ray of the dorsal and anal, and the upper and lower of the caudal, slightly thickened and rough. Caudal lobes more or less produced. Pectoral spine strong, extending to the second third of the ventral fin, covered with short hooks. Ventral spine as long as that of the pectoral fin, extending beyond the anal. Each scute of the body with a series of three or four very prominent spines. Ten scutes between anal and caudal, and eight between the two dorsal fins. Brownish black; most of the scutes with a round bluish-white dot at the

base; lower parts with numerous similar but more distinct white dots.

This beautiful species, which I have named after Mr. Ford, is probably from Surinam. Four male specimens, the largest 9 inches long, were obtained from the collection of Dr. van Lidth de Jeude.

CHÆTOSTOMUS DEPRESSUS.

D. 1/7. A. 6. P. 1/6. L. lat. 23.

Head and trunk much depressed and flattened. The length of the head is rather more than one-third of the total (without caudal); the diameter of the eye is one-fifth of the length of the head, and *two-thirds of the width of the interorbital space*. The margin of the snout is covered with short bristles; interoperculum with a bundle of about eight similar bristles, the longest being only half as long as the eye. The lower margin of the opercle slightly serrated. The lower side of the head, thorax, and belly entirely naked. Dorsal fin rather higher than long, the first ray being shorter than the head; the length of its base is nearly equal to its distance from the caudal; there are six scutes between the two dorsal fins. Caudal fin obliquely truncated, the lower rays being much longer than the upper. Pectoral spine extending to the second third of the ventral, and rather rough; ventral fin extending to the end of the anal. Eleven scutes between the anal and caudal fins. Scutes with numerous striæ, each stria composed of numerous very small spines. Posthumeral ridge obtuse. Brown, each scute with several round very small whitish dots; dorsal and caudal rays with a series of similar dots, the interradial membrane being immaculate.

This species is also probably from Surinam; one male specimen, 6 inches long, has been obtained from the collection of Dr. van Lidth de Jeude.

This species is allied to *Plecostomus barbatus* and *P. guttatus*. We have received a very complete series of the former species from the same collection, and I find that the long bristles on the margin of the snout and the interoperculum form a sexual character and are peculiar to the male. In the female they are very short, and sometimes scarcely developed. Both these species might be referred, with greater propriety, to *Chætostomus*.

CHÆTOSTOMUS MEGACEPHALUS.

D. 1/7. A. 5. P. 1/6. L. lat. 23.

Head but slightly depressed, rather longer than broad, *its length being more than one-third of the total (without caudal)*; a very obtuse ridge runs from the upper angle of the orbit to below the nostril; occiput flat; interorbital space with a pair of shallow grooves. The horizontal diameter of the orbit is more than one-half of the width of the interorbital space, and about one-fifth of the length of the head. Margin of the snout granulated, without

bristles; interoperculum with a bundle of about twenty setiform spines, the longest of which are about one-fourth of the length of the head, and extend backwards to the root of the pectoral fin. Thorax and belly entirely naked. Dorsal fin rather higher than long, the length of its anterior rays being three-fourths of that of the head; the length of its base equals its distance from the root of the caudal. There are six scutes between the two dorsal fins. Caudal fin forked, the lower lobe being the more developed. The pectoral spine extends to the second third of the ventral; the ventral fin to the middle of the anal. Twelve scutes between the anal and caudal fins. Scutes of the body without keels, but with vertical series of spines, the anterior scutes with one series only, the middle with two, and the posterior with three or more. Posthumeral ridge indistinct. Blackish brown; head and body with numerous indistinct round yellowish spots, each about as large as the pupil; each dorsal ray with a series of round whitish spots, the black ground-colour forming a network on the fin.

One male specimen, 6 inches long, has been obtained from the collection of Dr. van Lidth de Jeude. It is probably from Surinam.

CHÆTOSTOMUS DENTEX.

D. 1/7. A. 4. P. 1/6. L. lat. 23.

Head depressed, rather longer than broad, its length being somewhat more than one-third of the total (without caudal). A very distinct short ridge runs from the upper angle of the orbit to below the nostril. Interorbital space and occiput flat, the orbital margin being slightly elevated. Eye rather small, its horizontal diameter being one-half of the width of the interorbital space. Margin of the snout rough, like the surface of the head, but without bristles. *Interoperculum with a bundle of about ten straight setiform spines, the longest of which is as long as the eye. Thorax and belly nearly entirely naked, there being only a few granulations behind the throat. Teeth comparatively large, with the apex dilated, scarcely lobed*; there are about six on each side in the upper jaw, and three in the lower. Dorsal fin higher than long, but its anterior ray is shorter than the head; the length of its base is less than its distance from the caudal; there are seven scutes between the two dorsal fins. Caudal fin forked, the lower lobe being much longer than the upper. The pectoral spine extends to the second fourth of the ventral; the ventral fin beyond the anal. Eleven scutes between the anal and caudal. Scutes not keeled, but covered with strong spines. Uniform greyish brown.

One example, $3\frac{1}{2}$ inches long, was found by Mr. Bartlett at Xeberos.

ACANTHICUS HYSTRIX, Spix.

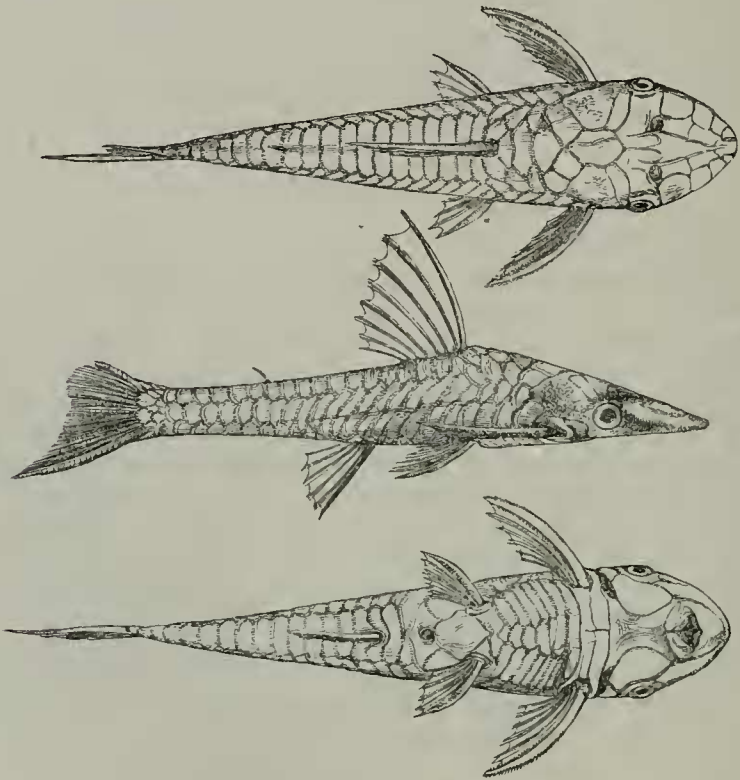
The figure given by Spix is not good; but the species may be readily recognized from it. Mr. Bartlett obtained a splendid ex-

ample, 22 inches long, at Xeberos. It has no adipose fin; therefore Kner's assertion, that the absence of this fin in the typical example is merely accidental, is not confirmed.

HYPOPTOPOMA (g. n. HYPOSTOMATINUM.).

This genus differs from *Plecostomus* in the peculiar formation of the head, which is depressed, spatulate, the eyes being on the lateral edge of the head. The moveable gill-covers are reduced to two bones, viz. the operculum, small and placed as in *Plecostomus*, and a second, larger bone (interoperculum?), separated from the eye by the narrow suborbital ring, and placed at the lower side of the head.

Fig. 2.



Hypoptopoma thoracatum.

HYPOPTOPOMA THORACATUM. (Fig. 2.)

D. $\frac{1}{6}$ /1. A. 6. P. 1/6. V. 1/5. L. lat. 24.

The form of the head approaches that of *Loricaria*, being much depressed; the snout broad, with the outline elliptical. The interorbital space is slightly convex, but little narrower than the greatest width of the head, which is three-fourths of its length. The

length of the head (to the occiput) is contained thrice and one-fourth in the total (without caudal). The margin of the snout is rough, like the upper surface of the snout. Structure of the mouth and teeth as in *Plecostomus*. Teeth small, about ten on each side in the upper jaw, and thirteen in the lower; lips narrow. The lower side of the head is naked, except where it is covered by the large subsemicircular interoperculum. Scutes without keels, covered with fine spines, which are arranged in longitudinal striæ. Thorax covered by two pairs, abdomen by three series of broad scutes. Dorsal fin much higher than long, the length of its base being one-half of its distance from the adipose spine; caudal fin obliquely truncated, the lower ray being much longer than the upper. Pectoral spine serrated along both edges, extending beyond the middle of the ventral; ventral fin scarcely extending to the anal. Coloration uniform olive, caudal fin darker.

A single example, 3 inches long, was obtained by Mr. Bartlett at Xeberos.

LORICARIA ROSTRATA, Spix.

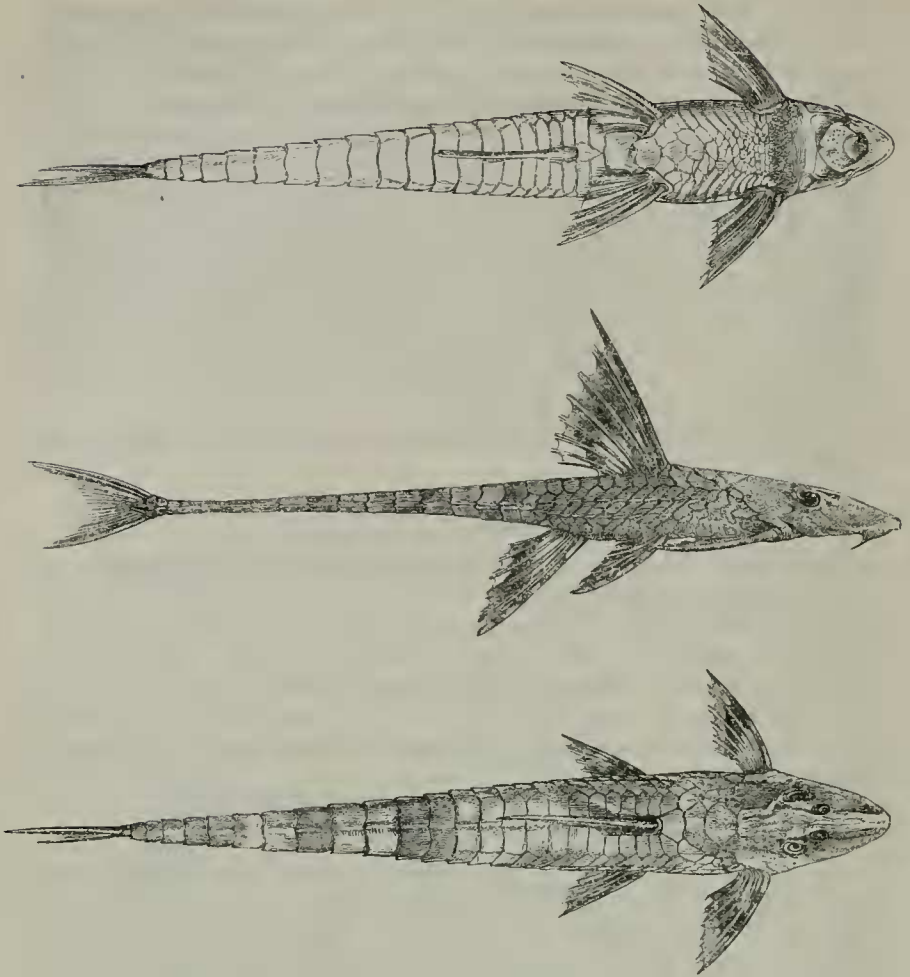
The figure given in Spix's *Pisc. Bras.* is bad. The figure of Valenciennes under the name of *Loricaria acuta* (pl. 452) has probably been made from an example of this species; it certainly does not agree with his description of *L. acuta*. This species shows the same sexual character as *Plecostomus barbatus*, the male having a bearded snout. Kner, not being aware of this, described the female as *L. rostrata*, and the male as *L. barbata*. Mr. Bartlett found this fish at Xeberos.

LORICARIA LANCEOLATA. (Fig. 3, p. 236.)

Head and body much depressed, but narrow, the greatest width of the head being three-fifths of its length. Lower lip broad, slightly notched behind; lateral barbels fine and small; fringes of the lip indistinct. Teeth very fine, few in number, about five on each side in the upper jaw, and about seven in the lower. Orbit with a rather shallow notch behind, its horizontal diameter (the notch included) being two-thirds of the width of the interorbital space, which is flat. Head and body rough; a pair of obtuse ridges on the occiput and nape. The lateral ridges of the body are confluent on the fifteenth scute. L. lat. 28. There is a series of seven scutes between the roots of the pectoral and ventral fins. Thorax and abdomen covered with irregular scutes. The length of the head (measured to the occiput) is a little more than one-fifth of the total (without caudal). None of the fin-rays are much produced; the pectoral extends somewhat beyond the origin of the ventral. Origin of the dorsal fin opposite to the root of the ventral. Brown; back with about five obscure dark cross bands; fins with broad, irregular confluent black cross bands.

One specimen, $3\frac{3}{4}$ inches long, was found by Mr. Bartlett at Xeberos.

Fig. 3.

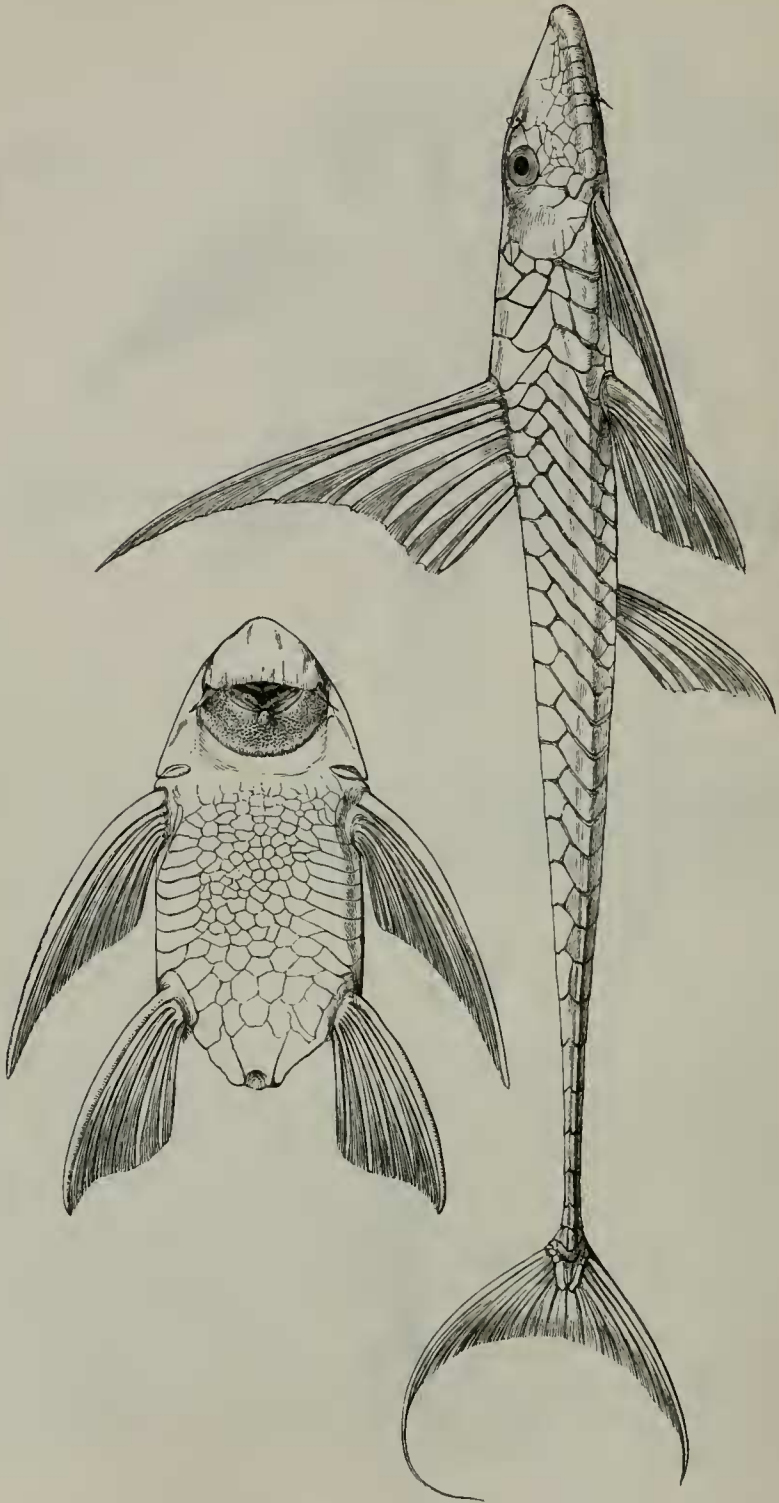
*Loricaria lanceolata*, p. 235.**LORICARIA PLATYSTOMA.** (Fig. 4, p. 237, and fig. 5, p. 238.)

Snout of moderate length, slightly pointed; mouth broad, upper lip well developed, lower semicircular, of moderate width, papillose, not fringed, and with a minute barbel near the angle of the mouth. Teeth very fine, about forty on each side of each jaw, the series occupying nearly the whole width of the mouth. Orbit nearly circular, without notch, its horizontal diameter being two-thirds of the width of the interorbital space, which is slightly concave. Scutes remarkably smooth, even the lateral ridges of the body and tail being obtuse; they are confluent on the twenty-first scute. L. lat. 29. There is a series of seven or eight scutes between the roots of the pectoral and ventral fins. Thorax and abdomen covered with small irregular scutes. The length of the head (measured to the occiput) is contained five times and one-third in the total (without

Fig. 4.



Fig. 5.

*Loricaria platystoma*, p. 236.

caudal). The outer ray of each fin (except anal) somewhat produced, that of the pectoral reaching to the middle of the ventral, that of the dorsal and upper caudal lobe being somewhat longer. Origin of the dorsal nearly opposite to that of the ventral. Uniform brownish (in spirits).

Two examples, 8 inches long, were obtained from the collection of Dr. van Lidth de Jende. They are probably from Surinam.

LORICARIA LAMINA. (Fig. 6, p. 240, and fig. 7, p. 241.)

Head and body excessively depressed; snout of moderate length, very broad, the head being nearly as broad as long. Labial folds thin, fringed; a slender barbel at the angle of the mouth, extending to or beyond the gill-opening. Teeth minute, few in number; there are about five on each side in the upper jaw, and seven in the lower. Orbit small, with a shallow notch behind; its horizontal diameter (the notch included) is three-fourths of the width of the interorbital space, which is nearly flat. Edge of the snout trenchant. Two very low median ridges placed close together run from the parietal region to the prædorsal scute. Lateral ridges of the body very conspicuous, confluent on the sixteenth scute. L. lat. 32. There is a series of nine scutes between the roots of the pectoral and ventral fins. Thorax and abdomen covered with small irregular scutes. The length of the head (measured to the occiput) is contained four times and one-third in the total (without caudal). Pectoral extending to the dorsal, the origin of which is opposite to the root of the ventral. Upper caudal ray slightly produced. Olive-coloured (in spirits), with some indistinct small round whitish spots on the back of the trunk; head with brown vermiculated lines.

Three examples, from 7 to 8 inches long, were collected by Mr. Bartlett at Xeberos.

MACRODON TRAHIRA, Bl. Schn.

Is found also in the Huallaga (Bartlett). I may remark that specimens lately received from Trinidad are perfectly identical with those from Brazil.

ERYTHRINUS UNITÆNIATUS, Spix.

Examples from Trinidad (? *E. cinereus*, Gill) are not specifically distinct from examples from the continent.

CURIMATUS LEUCISCUS.

D. 11. A. 9. V. 10. L. lat. 64. L. transv. $\frac{11}{10}$.

The height of the body is contained thrice and two-thirds in the total length (without caudal), the length of the head four times. Upper profile of the head and nape straight. Snout a little longer than the eye, which is three-fifths of the width of the interorbital space. Snout somewhat projecting beyond the mouth; the second suborbital bone is more than twice as long as deep. Eye with a

Fig. 6.

