VIVARIUM NATURE OR

VOL. I.
DEDICATED
BY
PERMISSION
TO
HER MAJESTY.

LONDON.
Printed for Nodder & C.15 Brewer St. Golden Sq. 1799.
VIVARIUM NATURÆ,
SIVE
RERUM NATURALIUM,
VARIÆ ET VIVIDÆ ICONES,
AD
IPSAM NATURAM.
DEPICTÆ
ET
DESCRIPTÆ.
THE NATURALIST'S MISCELLANY:

OR,

COLOURED FIGURES OF NATURAL OBJECTS;

DRAWN AND DESCRIBED IMMEDIATELY FROM NATURE.
AUGUSTISSIMÆ CELSISSIMÆQUE
CAROLETTÆ,
BRITANNIARUM REGINÆ,
VIRTUTIBUS PRÆCELLENTISSIMÆ,
ARTIUM ELEGANTIARUM
JUDICI, FAUTRICI SUMMÆ,
HUNC PRIMUM
NATURÆ VIVARII
FASCICULUM
CULTU OMNI ET OBSEQUIO
D. D. D.

GEORGIUS SHAW,
FREDERICUS P. NODDER.
TO THE
MOST ILLUSTRIOUS PRINCESS,
CHARLOTTE,
QUEEN OF GREAT BRITAIN,
NOT LESS DISTINGUISHED BY
HER VIRTUES
THAN
HER STATION,
THIS FIRST VOLUME
OF THE
NATURALIST's MISCELLANY
IS
WITH PROFOUND HUMILITY INSCRIBED
BY
HER MAJESTY's MOST DEVOTED
AND
MOST OBEDIENT SUBJECTS AND SERVANTS,

GEORGE SHAW,
FREDERICK P: NODDER.
PSITTACUS PORPHYROCEPHALUS.

Character Genericus.


Character Specificus.

PSITTACUS submacrourus viridis, vertice subcrissato, purpureo-caeruleo, gula rubra.

Inter numerosas hujus generis species vix extat avicularia aut forma elegantior, aut coloribus pulchrior. Insulas incolit australes modo exploratas, nuperis navigiiis inde ad nos advehta. Interdum fit ut differat paulum colore alia ab alia: ut nemepe in nonnullis sint femora viridia, in nonnullis purpurea. Interdum etiam pectus aliiquid sufci coloris exhibet. Hae differentiae fortasse vel sexus discrimina indicant, vel a juniori aut profectiori aetate oriuntur.
THE
PURPLE-HEADED PARRAKEET.

.Generic Character.

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz. two backward and two forward.

Linneus and Pennant.

.Specific Character.

GREEN PARRAKEET, with the tail rather elongated; crown slightly crested, and of a purplish blue; throat red.

BLUE-CRESTED PARRAKEET.


Of the extensive genus to which this bird belongs, there hardly exists a more beautiful species, either in point of shape or colour. It is a native of the newly-discovered Islands in the South-Sea, and is one of the numerous acquisitions with which Natural History has been enriched by the late Voyages to the Southern Hemisphere. It is subject to some variety as to colour, the thighs in some being green, and in others purple: the breast also is sometimes of a dusky tinge. These are probably either sexual differences, or else may be owing to a more or less advanced state of age.
CHARACTER GENERICUS.

Antennae setaceae, a basi ad apicem semim attenuatae.
Alae, sedentis, saxius deflexae. (Volutu nocturno.)

CHARACTER SPECIFICUS.

PHALÆNA pectinicornis elinguis, alis falcatis, concoloribus luteo-varis, macula fetebrata: superioribus sesqui-alta.

Phalaena, in hac tabula depicta, est omnium phalænarum hactenus cognitarum maxima: omnium etiam, testante Linnaeo ipso, speciosissima. Historiae naturalis cultoribus jamdudum est cognita, et a Domina Merian in Historia Insectorum Surinamensium depicta: quae tamen eximiam ipsius insecti venustatem et varios colores in tabula minus feliciter exprimit. Eruca, notabilis hujus insecti mater, prægrandis est, colore viridi, et tuberculis flavis annulata. Appropinquante ejus in chrysalidem metamorphosi, telam fericis subflavi de suo ipsius glutine deducit, in qua cubat, durante chrysalidos flatu. Erucae haec in China, et aliis Orientis regionibus, nec-non in America calidiori frequenti reperiuntur: et quandoquidem ter quolibet in anno producuntur, fericum
ricum illinc ortum commercii non parvi aestimandi fieri possit fundamentum; firmissimum enim hoc sericum simul ac elegantissimum habetur. Opinionem hanc jam olim vulgavit Domina Merian.

_Vide Insect. Surin. tab. 52._

Vescitur hæc Eruca præcipue foliis citri.

Phalaenæ non mediocrem pulchritudinem afferunt antennæ suæ: singuli enim antennarum articuli radiis quatuor, scu duobus utrinque sc diducentibus instructi sunt, ita ut duplices appareant.
THE
ATLAS MOTH.

Generic Character,
The Antennae or Horns setaceous, decreasing in size from the base to the point.
The Wings, when at rest, generally deflected. Flight, generally nocturnal.

Specific Character.
MOTH with sub-falcated Wings, varied with different shades of ferruginous and orange; with a large transparent spot on each, and a smaller contiguous spot on the upper wings. Colour of both the surfaces nearly the same.

The Moth figured in this plate is the largest species of Phalaena, hitherto discovered; it must be unnecessary to add, that it is one of the most beautiful. Linnaeus, in the Systema Natutae, calls it Speciosissima Phalaenarum. It has been long known to naturalists, and has been figured by Madam Merian, amongst the insects of Surinam. The figure, however, which she has given, does not by any means do justice to the uncommon elegance of the insect itself. The Caterpillar from which this remarkable Moth is produced, is very large, of a green colour, and surrounded by rings of yellow
low tubercles. When the period of its change approaches, it spins a web of extremely strong yellowish silk, in which it lies during its state of chrysalis. The Caterpillars are very common in China, and other parts of the East-Indies, as well as in America; and as the Moth breeds thrice a year, it might, in all probability, be made a very profitable article of commerce; since the silk it produces, is extremely strong and rich. Madam Merian has observed this in her account of the animal.

See her History of the Surinam Insects, tab. 52.

This Caterpillar feeds principally on Orange leaves.

What adds, in a most remarkable manner, to the beauty of the Moth, is the curious structure of the Antennae, or Horns; which are pinnated in a quadruple series of fibres, so as to appear as if double, or composed of two pair of Antennæ laid over each other.
MOSCHUS PYGMÆUS.

Character Genericus.
Cornua nulla.  
Dentes laniarii superiores solitarii exserti.  

Character Specificus.
MOSCHUS pedibus humano digito angustioribus.  

THE PYGMY MUSK.

Generic Character.

No Horns.
Two long Tusks in the upper jaw.
Eight small cutting Teeth in the lower jaw, none in the upper.

Linnaeus and Pennant.

Specific Character.

MUSK with legs of smaller diameter than the human finger.

GUINEA MUSK.


This elegant little creature is one of the smallest of the hoofed quadrupeds, being seldom more than about 9 Inches in length; or about the size of a small cat. It abounds in several parts of the East-Indies, and is common in the island of Java. It is an animal of a very agile and lively disposition. At first view one would not be inclined to rank this creature in the genus Moschus or Musk. Yet, since both Linnaeus and Mr. Pennant have agreed in so doing, we shall not object to its being thus placed. The tusks in the upper jaw are, however, very short, so that it does not shew, in a striking manner, that particular of its generic character. This little species is generally of a tawny colour above, and white below; but the individual specimen, from which this figure was taken (and which is now in the Leverian Museum), is streaked in a remarkable manner on the neck with white.
TANAGRA TATAO.

Character Genericus.

Rostrum conicum, acuminatum, emarginatum, basi subtrigonum, apice declive.


Character Specificus.

TANAGRA violacea, dorso nigro, uropygio fulvo, capite viridi, pectore alisque violaceis.


Nescio an hac plumas habeat aliqua avis splendidiores. Possunt sane Trochili, aliarumque nonnullarum colores, sigillatim inspexit magis nitebunt; vix tamen alii avi obtigit tanta lucidarum plumarum varietas. Guianum incolit in America Australi pulcherrima haec avicula. Fœminæ et pullis pallidior est color; sit etiam interdum ut avis adulta differat paulum colore alia ab alia. Cantu plane caret; quod illi cum multis aliis regiones calidiores incolentibus commune est: dicamus igitur cum elegantissimo fabularum scriptore, 'Si vocem haberes nulla prior ales foret.'
THE PARADISE TANAGRA.

Generic Character.

*Bill* conical, acuminated, a little inclining towards the point, upper mandible slightly ridged, and notched near the end.

*Linnaeus* and *Pennant.*—Class, *Passeres.*

Specific Character.

VIOLACEOUS TANAGRA, with the back black, the rump orange, head green, breast and wings violet-blue.


Le SEPTICOLOR.


TITMOUSE OF PARADISE.

*Edw.* pl. 349.

It may be doubted whether in the whole feathered tribe there exists a bird of gayer plumage than this. In the Humming-birds and some others, there are indeed still more vivid hues, if singly considered; but scarce any bird yet known displays such a combination of lively colours. This splendid little creature is an inhabitant of Guiana in South America. The female is somewhat less brilliant in colour, as is also the case with
with those which have not yet attained their full age; it likewise happens that some slight varieties occasionally take place in the colours of the full-grown birds. Like many of the gay birds of the hotter climates, it is destitute of song. In the words of the elegant fabulist, we may apply to it, ‘Si vocem haberes, nulla prior ales foret.’
ANGUIS SCYTALE.

CHARACTER GENERICUS.

Squamæ abdominales et squamæ subcaudales.


CHARACTER SPECIFICUS.

Anguis squamis abdominalis 240, caudalibus 13.


Non solum pulcherrimis dives coloribus superbit hic serpens, sed et omni noxio prorsus caret. Plurimus est in America Australi, sylvas incolens, variaque infecta devorans, scolopendras præcipue, quibus maxime delectari dicitur, ibi non solum numerosissimis sed et maximis. Colore est interdum albo nigroque, interdum subroso nigroque: color tamen illi elegantissimus est aurantio-ruber, ventrem flavescens, totum corpus fæciis aterrimis pulcherrime variatus. Mira est illa et peculiaris generi exuvias abjiciendi facultas; hoc peracto novus ingreditur serpens forma laete vivida et coloribus splendidissimis. Hinc tamen fit ut non leviter errent Physici, qui ea de causa species minus accurate distinguere possunt. Notabilis hujus rei causam ita fæcile exponit celeberrimus Linnaeus.

‘Hos nuda in terra rejectos, artuum ministerio expertes, omnium injuriae expositos, armavit natura con-C 'servatrix
servatrix suis armis, horrentibus execrabilis veneno,
peslimorum pessimo, in diversis diverso. Ne vero hi
spoliati misericordiae armis quae ipsis superessen nimium
saevirent, decimam quamque tantum speciem armavit
imperans, sed versipelles eos voluit, ut dubii omnes
metuerentur ab omnibus.
THE PAINTED SNAKE.

Generic Character,

Body covered with uniform scales, or those on the belly and beneath the tail, not differing in shape from the rest.

Specific Character.

SNAKE with about 240 scales along the belly, and 13 beneath the tail. General colour black and orange; sometimes black and white, &c.

The Serpent figured on this plate, besides being distinguished by the beauty of its colours, is perfectly harmless. It is common in South America, where it resides in woods, and preys upon various insects, &c. It is said to be particularly fond of Scolopendrae, or centipedes, which in those regions are uncommonly numerous and large. It is sometimes found entirely black and white, and sometimes pale rose-colour and black: but the most elegant state in which it appears is that of a bright orange-red; much paler or yellowish white on the belly, and beautifully fasciated all over with bars of the deepest black. One of the most singular properties of
of the ferpent tribe, is that of casting their skins at certain periods, and appearing in a state of superior beauty in point of colour than before. This is one of the principal causes of that difficulty which obtains amongst Naturalists of determining the species; since one and the same animal may vary extremely in colour at different seasons, and therefore be mistaken for a different species. Linnaeus gives a very good and probable reason for this, viz. 'That since the Author of Nature has armed many of the ferpent tribe with a dreadful poison, He has ordained that all should cast their skins, in order to inspire a necessary universal caution and suspicion of the whole tribe.'
BRADYPUS TRIDACTYLTUS.

Character Genericus.

Dentes primores nulli utrinque.
Laniarii obtusi, solitarii, molaribus longiores, occurfantes.
Molares utrinque 5, obtusi.
Corpus pilis tectum.


Character Specificus.

BRADYPUS pedibus tridactylis, cauda brevi.


Hoc animali vix aliud aspectu deformius et inelegantius potest excogitari. Species ita in tabula depiéta, in America Australi nascitur; fedem sibi querens in desertsimis locis, ubi otium turbare nec possint homines aut alia animantia. Negat celeberrimus Naturæ scrutator Buffonius reperiri posse aliquid in hoc animali quod mundani systematis vel ufui vel decori inveriat; clamitans monstrum esse informe, sine arte et consilio factum, et ad folas aërumnas aptum. Nec mirum, ait ille; magna enim pars hominum vix fato meliore gaudet. Pace tamen tanti viri, (qui sæpe seria cum ludicris permissæ) liceat mihi dicere hoc ipsum animal tam vile, tam visu foedum, pro suis vitæ moribus suisque pro-

priis
priis amoenitatis non minus apte et idonee formari, quam alia animantia, quies melior forma et ingenium vividius obtigerint. Fructibus praecipue vescitur Bradypus; sed et folia ipsa lubenter comedit. Motu incedit languido et tardissimo. Vocem emittere dicitur tam ultra fidem singularem, tam miseranter ejulantem, vultu simul adeo lachrymoso, ut audientium misericordiam et fastidium commoveat. Insolitum hunc clamorem, (a natura, ut credere par est pro defensione datum) simul ac audierint alia animalia, terrore percita in fugam se recipiunt. Nec tamen vox et praeterea nihil, quo se defendat data est; adeo enim robore prepollet Bradypus, ut canem, unguibus suis prehensum, vehementer renitentem, et omni vi evadere conantem mordicus retineat, donec ipsa fame consumptum miserrit. Tantam enim ipse tolerare potest abstinentiam, ut truncoc appensus, sine esca aut potu, per mensem integrum duraverit, vix tandem fame et languore consumptus. Patet hoc a mirando Kircheri experimento.

Alia existat Bradypi species; huic valde similis; cui tamen pedes antiores duobus tantum unguibus muniti sunt.
THE
THREE-TOED SLOTH.

 Generic Character.
No Cutting-Teeth in either Jaw.
Canine Teeth obtuse, single, longer than the grinders, placed opposite.
Grinders five on each side, obtuse.
Fore-Legs much longer than the hind.
Claws very long. [Linnaeus and Pennant.

 Specific Character.
SLOTH, with three toes on each foot, and a very short tail; size of a smallish dog.

THREE-TOED SLOTH.


L'Ai. [Buffon. vol. XIII. p. 34. tab. 5. 6.

So extraordinary is the union of awkwardness and ugliness in this uncommon creature, that it has generally been regarded as one of the most striking examples of animal deformity. The species here exhibited, is a native of South America, where it resides in solitary places, and where its quietude is least liable to be disturbed by Man or other animals. A celebrated Naturalist, the Count de Buffon, will not allow this creature to have any share in contributing to the general beauty in the chain of beings, but regards it as an ill-constructed mass of deformity, created only for misery, which he thinks
thinks is the less to be wondered at, when perhaps the major part of mankind experience the same fate. With submission, however, to this lively Naturalist, I should not hesitate to believe that the Sloth, notwithstanding this appearance of wretchedness and deformity, is as well fashioned for its proper modes and habits of life, and feels as much happiness in its solitary and obscure retreats, as the rest of the animal world of greater locomotive powers and superior external elegance.

The Sloth feeds chiefly on fruit; it will even feed on the leaves of trees; and it is of all animals the most languid in its motions. Its voice is said to be so inconceivably singular, and of such a mournful melancholy, attended at the same time with such a misery of aspect, that it excites at once a mixture of pity and disgust; and that the animal makes use of this natural yell as its best mode of defence; since other creatures are frightened away by the uncommon sound. This is, however, far from being its only refuge; for so great is the share of muscular strength which it possesses, that it is capable of seizing a dog with its claws, and holding it, in spite of all its efforts to escape, 'till it perishes with hunger; for the Sloth itself is so well calculated for supporting abstinence, that the celebrated Kircher assures us of its power in this respect having been exemplified by the very singular experiment of suffering one which had fastened itself to a pole, to remain in that situation, without any sustenance, 'till it perished through fatigue and famine; which did not happen 'till more than the space of a whole month.

There is another species of Sloth which has the same general appearance with the species here figured, but is furnished with only two toes to the fore-feet.
PSITTACUS PORPHYRIO.

Character Genericus.


Lin. Syst. Nat.

Character Specificus.

PSITTACUS submacrourus, violaceo-cyaneus, capite subcrislato, gula albida.

THE VIOLET-BLUE PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable. Tongue broad, fleshy, and obtuse.

Legs rather short. Toes formed for climbing, viz. two forward and two backward.

Specific Character.

VIOLET-BLUE PARRAKEET, with the tail somewhat elongated; head rather crested; throat white. Length about 5 Inches, or somewhat more.

OTAHEITAN BLUE PARRAKEET.


N. B. This bird and the Psittacus Porphyrocephalus figured in the First Number of this work, are very nearly of the same size and proportion.

This diminutive species is one of the most elegant of its tribe. Its colour is a beautiful deep violet, except on the throat and upper part of the breast, where it is white; but in some specimens slightly tinged with dusky.
Dusky. The bill and legs are reddish, and the feathers on the head are elongated, so as to form a flight crest, in the same manner as in the Phituricus Porphyrocephalus, described in the First Number of this work.

A very curious circumstance relative to this little bird, has been observed by Mr. Latham in his Synopsis of Birds; viz. that the tongue, which in the rest of the genus is blunt and short, is in this species long, and terminated by a sort of pencil of short white bristles.

It is a native of the Island of Otaheite in the Southern Hemisphere.
**DRACO VOLANS.**

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**Character Genericus.**

*Corpus* tetrapodum, caudatum, alatum; alis propriis.


**Character Specificus.**

DRACO brachiis ab ala distinctis.


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Simile est Lacertis hoc animalculum nisi quod membranam habeat lateralem, radiis quibusdam offensis firmamentam, et quam ad arbitrium vel complicare vel explicare potest. Hinc Lacerta volans non inepte nominari potest. Celeberrimus tamen Linnaeus, in Systemate _Natura_, genus illi distinctum nomine Draconis dedit. 

Africae indigena est, et ut aliae minores Lacertae, inter arbore vagatur, more sciuri volantis, ope membranae sua lateralis saliens; an volitans potius dicam? Aliarum lacertarum more infectis versusitur, quae (ut verissimile mihi videtur est) faccule quem habet in gula, ingedit, postea pro arbitrio, et per otium comedenda.

Tegitur undique Draco volans fquamis parvulis, et pleurom par coloris subcinerei, fusco alboque plus minus vivide dorsum et alas variatus.
THE FLYING DRAGON.

 Generic Character.

Body four-footed, tailed, and winged;

Specific Character.

DRAGON with the fore-legs unconnected with the wings.

It is merely in being furnished with a lateral expanded membrane, strengthened by a few radii, or bony processes, that this animal differs from the Lizard tribe; so that it might, without impropriety, be named the Flying Lizard. Linnaeus however, in his celebrated work, the Systema Naturæ, has instituted a distinct genus for it, under the title of Draco or Dragon.

This animal is an inhabitant of Africa, and like many other of the smaller Lizards, delights in wandering about trees, and from the peculiar mechanism of its lateral membranes, is enabled to spring from bough to bough, and support itself in air for a moment or two, in the manner of a flying Squirrel. Like other Lizards, it feeds on insects, and it is not improbable that the remarkable gular pouch with which it is furnished, may be a provision of Nature, for retaining for some time, a number of small insects which it may collect, to be afterwards swallowed more at leisure.

This
This animal is covered with very small scales, and is generally of an ash-colour, varied and clouded on the back and wings with brown and whitish; which variations in the different specimens of the animal are more or less deep.
SCOLOPENDRA MORSITANS.

(Characters Genericus)

Pedes numerosi, totidem utrinque quotient corporis segmenta.
Antennae fetaeae.
Palpi duo, articulati.
Corpus depressum.


(Character Specificus)

SCOLOPENDRA pedibus utrinque 20.


Huic Insecto, Indiam utramque et Africam incolen-
ti, formidolosus omnino et horridus est aspectus. Non satis manifeste patet (ut mihi visum est) discrimen inter duas species Linnaeanas, Giganteam scilicet et Morsit-
tantem. Articulos itidem, seu corporis pedumque seg-
menta, non semper in eadem specie numero æqualia esse opinatus sum. In specie Europæa, ita se rem ha-
bere, probe cognoscitur: larvä enim, seu juniores, pe-
dibus paucioribus quam seniores sunt instructi. Vene-
no quodam imbusta est species illa jam descripta, quod per forcipem tubulatam, cui apex foratus, morsu in vulnus indit.

Scolopendrae
Scolopendrae hæ ingentes in sylvis plurimæ sunt, variis anguibus cibum præbentes. In domus haud raro irreput, Indiam colentibus adeo molestæ, ut lectorum postes in aqua immergere dicantur incolæ, ne noctu in-commodi aliquid ab infælis hisce horrendis percipiant.

Vetores qui de Historia Naturali scripserunt, multa et dira perhibent de Scolopendarum morso, quorum tamen ita incertum est testimonium, ut facete potius fabulari, quam in veritatis investigatione versari videantur.
THE
GREAT SCOLOPENDRA,
OR
CENTIPEDE.

Generic Character.

Feet numerous. As many on each side as the joints of the body.
Antennae fetaceous and jointed.
Feelers 2, jointed.
Body depressed, or flattened.

Linnaeus.

Specific Character.

SCOLOPENDRA with about 20 legs on each side.

There is something uncommonly formidable in the appearance of this Insect. It is found both in the East and West-Indies, as well as in different parts of Africa. The difference between the two Linnaean species, the Gigantea and Morfitans, does not appear sufficiently clear, and I am inclined to believe that the number of joints and consequently of legs, is not always the same in different specimens of the same animal; indeed, in
the smaller European species this is well known to be
the cafe; the larvæ, or those which are young, being
furnished with fewer feet than when in a more advan-
ced state of life. The species here described, is of a
poisonous nature, and is furnished with a pair of fore-
ceps, which being tubular, and with an opening or slit
towards the points, are the instruments through which
the insect injects its poisonous juice when it bites.

These large Scolopendræ chiefly inhabit the woods,
where they are preyed upon by different species of
snakes; but, like the European ones, they sometimes
are found in houses, and are said to be so common in
some particular districts, that the inhabitants are obliged
to have the feet of their beds placed in vessels of water,
to prevent their being annoyed during the night by
these horrible reptiles. The older writers on Natural
History are full of the dreadful consequences resulting
from the bites of Scolopendræ, but their descriptions
are so vague, and their accounts so uncertain, that no
great satisfaction can be obtained from reading their
Histories.
MOTACILLA SUPERBA.

[Character Genericus]

Rostrum subulatum, rectum: mandibulis subaequalibus.
Nares obovatae.
Lingua lacero-emarginata.


[Character Specificus]

MOTACILLA nigra, remigibus fuscis, abdomine albo, fronte genisque caeruleis.

Hæc avicula, inter alias sui generis forsan pulcherrima, Novæ Hollandiæ, præcipue Terræ de Van Die- man dicitæ incola est; illinc paucis abhinc annis primum in Angliam illata. Colores paulum variat; circa frontem scilicet plus minus est.caerulea, ventrem plus minus albida. Caput est aterrimum; quod tegunt plumæ mollissimæ. Totum etiam corpus vestiunt plumæ præter solitum teneræ et elegantes.
THE SUPERB WARBLER.

**Generic Character,**

*Bill* tubulated (or awl-shaped); *straight*; the mandibles nearly equal.  
*Nostrils* nearly oval.  
*Tongue* jagged, or lacerated towards the tip.

**Specific Character.**

**BLACK WARBLER,** with the long feathers of the wings brown; the belly white; the forehead and cheeks blue.

The beautiful species of Motacilla here figured, is a native of that part of New Holland called Van Dieman's Land; and is one of the new species of birds, which have been discovered during the voyages to those parts. It varies a little in colour, some specimens having more of the blue on the head than others; the belly also in some specimens is of a more dusky tinge than in others. The head is of the deepest velvet-black, and the feathers on the whole bird have an unusual share of softness and elegance.
MANIS PENTADACTYLA.

Character Genericus.

Dentes nulli.
Lingua teres, extensilis.
Os angustatum in rostrum.
Corpus squamis tectum.


Character Specificus.

MANIS pedibus pentadaeactylis.


LACERTUS SQUAMOSUS.

Bont. Fav. p. 60.

Externam tantum formam spectanti, videatur hoc animal inter lacertos debere reponi: quibus tamen nulla alia re est affine. Est enim quadrupes revera viviparum, ab aliis quadrupedibus in hoc tantum discrepans, quod squamis validis admodum et magnis, propilis vestitum. Hae squamae mire adeo a Natura comparantur ut, appropinquante periculo, contrahere se posse poffit animal in pilam oblongam, nullis pene dixerim vulneribus obnoxiam; sunt enim squamae robustae adeo et acute, ut pedes serarum rapacium, incaute contrectare audientium, severe lancinet. Animal mite est Manis,
Manis, vesciturque præcipue insectis et verminibus. Inter sylvas et loca palustria vagatur, nullam aliam vocem præter rhonchum quendam peculiarem emittens. In magisam interdum crescit molem, pedes septem vel octo longa. Alia species est hujus generis, in pluribus huic valde similis, cui tamen cauda multo longior, pedesque unguibus quatuor tantum muniti sunt. Species hie depicta in India Orientali habitat, in insula Java quam alibi frequentior. In Africa etiam dicitur inveni.
THE
FIVE-TOED MANIS.

Generic Character.

No Teeth.
Tongue cylindric and extensile.
Mouth narrowed into a snout.
Body covered with scales.

Specific Character.

MANIS with pentadactylous (or five-toed) feet.
   *Lin.*

SHORT-TAILED MANIS.

If external form alone were regarded in this animal, it might be looked upon as a species of Lizard, so striking is the general resemblance which it bears to that tribe. In reality, however, it has no other affinity with those creatures; it is a genuine viviparous quadruped, and only differs from the generality of other quadrupeds in being covered, not with hairs, but with large and strong scales, which are so admirably contrived by Nature, as to enable it to contract itself on the approach of danger, into an oblong ball, in such a manner
a manner as to be almost invulnerable; for such is the
strength and sharpness of its scales, that they have been
known to cut the feet of such beasts of prey as have
ventured to attack it in this its defended state. The
Manis is an animal of a harmless disposition. It feeds
principally on insects, worms, &c. wanders about
woody and marshy places, and has no other voice than
a sort of snorting. It grows to a very great size, and
sometimes measures several feet in length. There is
another species of Manis, which has the same general
appearance, but which differs in having a much longer
tail, and the feet furnished with four claws only, in¬
stead of five.

The species here figured, is an East-Indian animal,
and seems to be more common in the island of Java,
than in other parts. It has also been found in Africa,
ARANEA AVICULARIA.

Character Genericus.

Pedes octo.
Oculi octo.
Os unguibus, seu retinaculis duobus.
Palpi duo articulati; masculis genitalibus capitati.
Anus papillis textoriis.


Character Specificus.

ARANEA thorace orbiculato convexo; centro transverse excavato.


Mer. Sur. t. 18.

Araneam vulgarem et domesticam non possunt non horrescere et averteri incuriosi naturae observatores. Quam longe tamen distat hæc minuta et imbellis species ab Araneæ Aviculariæ horrenda et ingenti mole! quam non solum alia Insecta sed ipsæ etiam aæves reformidant, forcipes habentem unguibus accipitris magnitudine pares, oculosque quibus exsectis et more vitri optici paratis pro microscopio uti possunt Philosophi.
Enormis hæc Aranea in variis Americae regionibus sæpe conspecta, frequentior est in America Meridionali. Inter arbores versatur, aviculis infidians, quas prius forcipibus vulneratas sanguinem exsugendo deinde necat. Forcipes itae virus inflant in vulner, ut et aliis plerisque Araneis commune est. Foramen juxta apices forcipum, per quod exit venenum, et de quo, sitne foramen necne, multum duique inter physicos dubitatum est, in hac specie ab ipso oculo, fine ope microscopi plane potest percipi.

Mirari sanc jure possunt illi, qui in microscopicis investigationibus versantur, illique praecipue qui microscopio Liberkuniano usi sunt, ullum unquam exstisfe dubium de hoc foramine in Aranearum forcipibus: inesse enim illud Araneæ ipsi vulgari et domesticæ plane demonstrat prima vel secunda lens istius microscopii. Notandum tamen est commune microscopium ad distinctum rei tam minutæ conspectum non satis accommodari. Swammerdamii et Roëseltii acumen effugit hoc foramen, et probe notum est Meadum celeberrimum in tractatu suo de venenis Leewenhoekium errasse credere, cum venenum Araneæ per foramen forcipum exprimi asserit: affirmat enim Meadus se variarum specierum forcipes, et speciatim prægrandis hujus speciei sedulo examinasse, nec tamen foramen potuisse detegere. Cum tamen multos post annos rem illi plane ostendit Bakerus, priorem opinionem summò cum candore revocavit vir doctissimus, alteramque substituit; certas tantum species venenosas esse, eae nempe quæ tubulatis forcipibus instructæ sunt; ut in serpentibus evenit; quorum certæ tantum species veneno
veneno imbutae sunt; illae neme quae dentea tubulatos gerunt, e.g. Crotalus, Vipera, &c.

Ab oculis aliorum Inseectorum differunt longe Aranearum oculi, et pro diversitate specierum diversum habent numerum et situm.

Species de qua jam agitur octo habet oculos, in formam pene oblongo-quadratam dispositos. Horum duo intermedii reliquis grandiores sunt, et plane rotundi; caeteri in formam ovi effinguntur.
THE
BIRD-CATCHING SPIDER.

**Generic Character.**

Eight Legs.
Eight Eyes.
*Mouth* furnished with 2 hooks or holders.
Two jointed *Palpi* or *Feelers*, the tips of which (in the males) distinguish the sex.
The *Abdomen* terminated by papillae, or teats, through which the Insect draws its thread.

**Specific Character.**

*Spider* with orbicular convex thorax with a transverse central excavation.

*Mer. Surin.* tab. 18.

The common Spiders of Europe are frequently beheld with horror and aversion by those who have not accustomed themselves to an attentive survey of the works of nature; but what are these when compared with the terrific magnitude of the gigantic species here exhibited! A species which is formidable not only to other insects, but even to birds themselves; whose fangs are equal in size to the talons of a hawk, and whose
whose eyes are capable of being set in the manner of glasses and used as microscopes. This enormous Spider is not uncommon in many parts of America, but it is principally found in South-America. It resides amongst trees, and frequently seizes on small birds, which it destroys by sucking their blood, after having first wounded them by its fangs, which infil a poisonous fluid into the wound, in the manner of other Spiders. The slit or orifice near the tip of the fangs of Spiders, through which the poisonous fluid is evacuated, and the existence of which has afforded so much matter of doubt amongst Naturalists, is in this species so visible that it may be distinctly perceived without a glass.

To those who are accustomed to microscopical investigations, and make use of the advantageous structure of the opaque microscope, it may seem surprising that any doubt could ever have been entertained of the existence of this foramen in the fangs of Spiders, since even in the common Houfe-Spider it is perfectly visible by the assistance of the first or second magnifier of Liberkun's microscope; but it should be considered that microscopes of the usual structure are not calculated for shewing to advantage so small an object, and which requires so favourable a light. Even Swammerdam and Roësel could not discover it; and it is notorious that Mead in his Account of Poisons, imagines Leewenhoek to have been mistaken in supposing that the Spider evacuated its venom through a hole in its fangs; and declares that he himself had examined the fangs of several Spiders, and of this large one in particular,
particular, without having been able to discover the foramen. The late Mr. Baker however, several years after, convinced him of its existence. He then retracted his former sentiment, and with great candour and judgment gave it as his opinion, that, as amongst serpents, only some particular species are poisonous, and have teeth that are perforated for the emission of their poison, viz. the Rattle-Snake, the Viper, and others, so amongst Spiders some kinds only may be poisonous, viz. such as are provided with perforated fangs.

The Eyes of Spiders differ very much from those of most other insects; and are different both in number and disposition in the several species. The present species has eight eyes, which are disposed somewhat in the form of an oblong square. Of these the two middle ones are larger than the rest, and perfectly round; the others are of an oval shape.
ALCEDO CRISTATA.

Character Genericus.

Rostrum trigonum, crassum, rectum, longum.
Lingua carnosa, brevissima, plana, acuta.
Pedes gregorii, plerisque.

Claff: Picæ.

Character Specificus, &c.

ALCEDO brachyura subcrisfata cærulea, subtus rufa, crispa nigro-undulata.


Edwards, t. 336?

Le VINTSI.

Buffon. Oif. vol. VII. p. 205.

In genere Alcedinis exempla sunt coloris variis et splendidissimi: inter omnes autem Alcedines eburnea pulcherrima species in tabula depicta. Inter minores est sui generis. Crissam in vertice formosam gerit hæc avicula quæ illi non parvo ell ornamento. In insula Amboyna apud Indos præcipue inventur.
THE CRESTED KINGFISHER.

**Generic Character,**

*Bill* trigonal, thick, flat, long, sharp-pointed.  
*Tongue* fleshly, very short, flat, sharp-pointed.  
*Feet* (in most of the species) greaserial, *i.e.* three toes forward, and one backward; and the three lower joints of the middle toe closely joined to those of the outmost.

*Linnaeus* and *Pennant.*  
Class, *Picæ.*

**Specific Character.** &c.

SHORT-TAILED BLUE-CRESTED KINGFISHER, rufous beneath, the creft undulated with black.  
*Edwards,* pl. 336?

Le VINTSI.  

In the Kingfisher genus, we have examples of the most striking variety and brilliancy of colour, and perhaps, in this respect, no species can be found that exceeds the bird here represented. It is one of the smaller birds of its genus. Its beauty is singularly heightened by the elegant creft with which the head is ornamented. It is a native of the island of Amboyna in the East-Indies.
GORGONIA FLABELLUM?

CHARACTER GENERICUS.

Flores Hydræ, sparsi e poris lateralisibus. Stirps radicata, cornea, continuata, ramosa; basi explanata, cortice obducta.

Claff: Vermes.

CHARACTER SPECIFICUS, &c.

GORGONIA reticulata ramis interne compressis, cortice flavo?


FRUTEX MARINUS ELEGANTISSIMUS?

Clus. exot. 120.

FLABELLUM VENERIS.


De corallii in hac tabula depicti natura et ortu, nomine Flabelli marini cogniti, plurimum discipitavere Philosophi; incerti quo in ordine entium debat repone. Multas hujus classis species scriptores antiqui et recentiores ut vegetabilia descripsissent; at a seriis et sedulis investigationibus doctorum hominum tandem compertum est vera esse animalia, vegetabilia tantum structura

Haec animalia forma sua ad genus Hydræ, seu Polypi accedunt. Genus Gorgonia, ad quod præfens species pertinet, est forte omnium Zoophytorum elegantissimum. Plurimas continet species, inter quas aliae suntsimulatei, seu vix ramosæ; aliae valde ramosæ, et aliae etiam reticulatae; sub quibus haec ipsa species militat.

Formosum hoc corallium, in littoribus maris Mediterranei, in littoribus etiam Indicis et Americanis reperitur,
reperitur, rupibus aliisque basim securam præbeatibus adnatum.

In magnam sæpe crecit molem, duorum scilicet vel trium pedum: frequenter etiam more elegantissimo proliferum conspicitur. Color ejus generalis purpureus est; interdum flavus; nec raro utrisque hisce coloribus variatus. Pars ejus vegetabilis est coloris obscurae cornei seu fusci; pars calcaria seu carnea, quam incolunt animalia, est, ut antea diximus, vel flavae vel purpureae, et undique tuberculis parvis cæberrime obsita, intra quæ, si recens fit Zoophytum, vivunt Hydæ parvulae.

Fig. 1. Pars ramuli leviter aucti, cum tuberculis, seu Hydrarum cellulis.

Fig. 2. Hydra ipsa, magnitudine aucta.
THE
FAN GORGONIA,
OR
VENUS'S FAN.

Generic Character.
The Flowers Polypes, dispersed from the lateral branches.
The Stem rooted, horny, continued, branchy; flattened at the base, covered with a bark.
Lin.

Specific Character, &c.
Reticulated Gorgonia, with the ramifications internally compressed, and the bark yellow (or purple).
Lin.

VENUS’s FAN.
Ellis's Zoophytes, p. 92.

SEA-FAN.
Ellis's Corallines, p. 60.

The object figured on this plate, and generally known by the name of the Sea-Fan, is one of those numerous productions which are not more remarkable for the singularity of their appearance, than for the different opinions
opinions which have arisen amongst philosophical enquirers, relative to their real nature, and the rank which they should hold in the scale of beings. Many of the species of this class have, by the ancient writers and several of the moderns likewise, been described as vegetables; but from the unwearied attention of some learned naturalists to this subject, it was at length discovered, and seems now pretty generally admitted, that they are in reality of an animal nature, and that the strong resemblance which many of them bear to vegetables, is to be considered as entirely owing to the operation of the animals which formed them.

In a publication of this nature, it will not be expected, that a particular investigation of the arguments on both sides of this curious subject should be introduced: we shall therefore refer such of our readers who may wish for more circumstantial descriptions, to the Philosophical Transactions, the Memoirs of the French Academy; and more particularly to the works of the late Mr. Ellis, where the fullest information may be found.

The whole tribe of the marine substances, known by the general names of Corals and Corallines, (with some animals of a different kind,) are arranged in the Linnaean System under two divisions, viz. Lithophyta and Zoophyta. In the latter of these, or Zoophytes, the animal nature predominates more apparently than in the former; and indeed these beings (as the name imports) seem rather to be a composition of animal and vegetable; whereas in the Lithophytes, or other Linnaean division, the stony or calcareous part predomi-
nates greatly over the animal one. The Lithophytes are considered as the actual builders of the substance which they appear to inhabit, as in the Madrepores, and other hard or stony corals; but the Zoophytes are (according to the Linnaean idea) to be considered as a kind of real vegetables, furnished with animated flowers, which, by a peculiar process of nature, display themselves from the ramifications in the form of real animals of the Polype tribe.

Whether this idea be strictly philosophical may well be questioned; and perhaps the opinion of Mr. Ellis, viz. that the ramified or supposed vegetable part, is a mere basis or support formed by the animals which inhabit it, is the most probable opinion of the two.

These animals are generally of an appearance more or less resembling the Hydra, or Polype genus. The genus Gorgonia, to which our present subject belongs, is one of the most elegant of the Zoophyte tribe. It contains a great number of species, some of which are nearly of a simple or unbranched structure, while others are very much ramified, and some are also reticulated; it is in this latter division of the genus, that this species is to be arranged.

This beautiful coral is found on the coasts of the Mediterranean, and those of both the Indies; adhering to rocks or other substances, which may afford it a steady basis.

It is frequently of a very large size, viz. two or three feet in length; and it is often proliferous in a most elegant manner. Its general colour is a beautiful purple, tinged with yellowish; but in point of colour*
lour, it varies extremely; some specimens being seen almost all purple, others all yellow, or variegated with purple branches and veins.

The vegetable part or stem is of a very dark horn-colour, or brown; the animal part consists of the calcareous yellow or purple incrustation; thickly beset with small protuberances, in each of which is a cavity, which, (in the recent coral) is the habitation of a small Polype.

_Fig. 1._ A small detached part, slightly magnified, showing the cells in which the Polypes reside.

_Fig. 2._ The Polype itself slightly magnified.
PAPILIO PRIAMUS.

Character Genericus.

Antennae apicem versus crassiores, saepius clavato-capitatae.

Alae (fedentis) cretae sursumque conniventes, (Volatu diurno.)


Character Specificus, &c.

PAPILIO alis denticulatis tomentosis supra viridibus; inllitis atris; pollicis maculis lex nigris.


PAPILIO AMBOINENSIS viridi et nigro-holofericus insignis.

Vincent. Mus. 10.

PAPILIO PRIAMUS.

Clerk. Icon. Inf. rar. t. 17.

N. B. Antennae in hac specie non clavato-capitatae, sed filiformes, et acuminatae.

Si illuìtrissimo Linnaeo assentimur, hac Papilionis species omnium pulcherrima reputanda est. "Papilio omnium omnium (inquit Linnaeus) princeps longe au-"
guflissimus, totus holofcricus, ut dubitem pulchrius "quidquam a natura in infectis productum". In insula Amboyna habitat, et inter lautomissas simul ac pretiosissimas species censetur. Color ejus viridis ita est formosus, ut omnem alium viorem superet, et fericum mollissimum et nitidissimum longe antecellat: notandum etiam est quod aureus quidam fulgor cum viore committus, illi alarum parti quae aterrimi est coloris, pulcherrime opponitur.

Papilio Priamus primum locum obtinet inter duas Linnaeanas divisiones Papilionum majorum in Equites Trojanos et Achivos. Hae duae sectiones Papilionum ab omnibus aliis hujus generis infectis distinguuntur forma peculiari alarum superiorum, quae ab angulo postico ad apicem longiores sunt quam ad basin.

Equites Troes plerumque maculis ex utraque parte thoracis sanguineis notati sunt. Plerumque etiam co-lores hujus divisiones in nigrum potissimum vergunt.
PRIAMUS,
OR THE
IMPERIAL TROJAN.

**Generic Character.**

The Antennae or Horns thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

The Wings (when fitting) erect, and meeting upwards (Flight diurnal.)


**Specific Character.**

BUTTERFLY with black and green wings, with six (or four) black spots on the lower wings.

N. B. The Antennae in this species are not thick at their extremities, but filiform and thorned.

If we allow the opinion of Linnaeus to be decisive, this is, of all the Papilionaceous tribe, the most beautiful insect. "It is (says Linnaeus) by far the most magnificent of all the Papalios; being all over of a silky appearance, and it may be doubted whether nature has produced any object more beautiful amongst insects."
It is a native of the island of Amboyna, and it is regarded as one of the most curious and valuable species yet known. Nothing can exceed the richness of the green colour, which in particular lights, is not only of an appearance far superior to the finest sattin, but has also a golden tinge diffused through it, which forms the most beautiful contrast with the deep black of the rest of the wings.

The Papilio Priamus stands foremost amongst the Linnaean division of the larger butterflies into the two sections of Trojan and Grecian Warriors or Equites. These two sections of butterflies are distinguished from all others by the remarkable shape or outline of their upper wings, which are longer if measured from the hinder corner to their anterior extremity, than from the same point to their base. The Trojan Equites are generally distinguished by red or blood-coloured spots on each side their breasts: the prevailing colour also of this division is generally black.
PSITTACUS Porphyrurus.

Character Genericus.


Character Specificus.

Psittacus brachyurus viridis, uropygio cyanoe, rectricibus (exceptis intermediis duabus) purpureis.

Obs. Caudae rectrices valde producæ; rectrices apice subquadrate, nigro fimbriate.

Latham. vol. 1. p. 315.

Formosam hanc aviculam, Cayanam in America Australi incolentem, colores decorant præter folitum vividi et splendentes. Præcipue distinguuitur hæc species rectricibus, seu caudæ pennis purpureis; exceptis intermediis, quæ virent. Species sui generis fere rarissima est, et (ut putò) nunc primum pictura in publicum evulgata.
THE

PURPLE-TAILED PARRAKEET.

Generic Character.

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz. two backward and two forward.

Linnaeus and Pennant.

Specific Character, &c.

SHORT-TAILED GREEN PARRAKEET,
with the rump blue, and the tail (except the two middle feathers) purple.

Olf. The coverts of the tail are very long, and the tail-feathers are squarish at the tips, and fringed with black.

PURPLE-TAILED PARRAKEET.

Latham. vol. 1. p. 315.

The colours of this most beautiful species, which is a native of Cayenne in South America, are of uncommon brilliancy. It is principally distinguished by the purple rectrices, or tail-feathers; except the two middle ones, which are green. It is one of the rarest birds of its genus, and we believe this to be the first figure of it yet published.
R A N A P I P A.

Character Genericus.

Corpus tetrapodum, nudum, ecaudatum.  

Character Specificus, &c.

RANA digitis antícis muticis quadridentáis, póstícis unguiculátis.  

Seb. Mus. 1. t. 77.
Mer. Sur. t. 59.
Vallifn. Nat. 1. t. 41. f. 6.

posteriorcs. Vivit adhuc animal in aqua in qua pri-
num naecebatur, cauda etiam remanente. Post ali-
quoth tamen septimanae haec quoque senfim decrescens,
tandum evanesceit : jamque rana perfecta in terram pro-
greditur, abhinc pro arbitrio vel in humo vel in aquis
degens.

Talis est ranarum omnium Europœarum transfor-
mationis serier (exceptis aliquot differentiis in figura
et dispositione ovorum in variis speciebus). At vero
in America Australi hujus generis est species, quæ in-
ter omnia ludentis Naturæ miracula primum fibi lo-
cum videtur vindicare. Pullos enim more prorsus in-
folito e cellulis, feu concavis tuberculis in dorfo sitis
excludit. Differt igitur haec ranæ species, utpote vi-
vipara, ab omnibus fui generis, nec non ab aliis ani-
malibus, insolito gestandi et parturiendi modo.

Surinamiam incolit rana haec monstrufa. Color illi
(saltem in speciminibus quæ ad nos pervenerunt) est
plerumque plus minus fusces, et interdum pene nigri-
cans; interdum multo pallidior. Animal est immo-
dice deforme; caput antica parte acuminatum gerens,
rostro velut suillo. Pedum anticorum digitii extremiti-
tates habent quadrifidas.

Affirmat Camper, vir anatomes peritissimus, Pipam
uterum, fœu ovarium internum habere, ovaque sua, eo-
dem modo quo et alia hujus generis animalia, exclu-
dere; et, si qua fides Fërmino, (qui se testem ocula-
tum tam miræ rei fuisse afferit,) mas ova a fœmina
deposita pedibus congregat, dorsoque fœminæ impo-
nit, quæ fecundata, intra cellulas dorsuales illa recipit,
et occludit, donec paulatim perfectam ranæ formam
adepta, iterum exclusantur.

Animal
Animal hoc tam singulare unicum tantum partum edere voluit Natura, nec cum aliis sui generis speciebus collatum, foecundum haberi potest; Pipa enim quam observavit Ferminus, quinque diebus septuaginta quinque pullos produxit.
THE PIPA,
OR
TOAD OF SURINAM.

Generic Character.

Body four-footed, naked, without tail.

Lin. Syst. Nat.

Specific Character, &c.

FROG with the toes of the fore-feet quadrifid at their extremities; the hind-feet webbed and clawed.

Seba. vol. 1. t. 77.
Mer. Sur. t. 59.

The spawn of the common frog is deposited in large heaps or clusters by the females in stagnant shallow waters and ditches in the early part of the spring; it consists of a congeries of black globular points, surrounded with a considerable depth of gelatinous substance. The black points are no other than the real embryos of the future frogs; in a few days they enlarge, change to a somewhat lighter colour, and break through the surrounding gluten, and swim in the water.
ter. In this state they are well known by the name of tadpoles, and consist of a very large body, with no appearance of legs, but furnished with a very remarkable fin-shaped tail, and on each side the breast is a set of ramified branchiae, or respiratory organs. After having lived for a considerable space in this state, with little other change of appearance than an increase of size, the ramified parts drop away, and the fore-legs appear; these are soon succeeded by the hinder ones, and the animal still continues to inhabit the water in which it was hatched; it is still furnished with the tail, which at this period of its growth makes a conspicuous appearance; but, after some weeks this also shortens by degrees, and the animal, having attained its perfect figure, ventures upon land, and from that time is at pleasure an inhabitant of either element.

Such is the change (with some few variations as to the figure and disposition of the spawn in the different species) which the animals of this genus undergo in all the kinds which belong to Europe; but in South America we have an instance in a species of this same genus, of one of the most extraordinary particularities which the whole compass of Natural History can exhibit: for in this animal, (which is called the Pipa, or Surinam Toad,) as if by a caprice of nature, unparalleled by any other known animal, and diametrically opposite to the established laws of production in other creatures, the young are produced, perfectly formed, out of cells, or hollow tubercles placed on the back of the female. This species therefore forms an exception
tion to the rest of the Frog-genus in being viviparous, and is likewise an exception to the general way of production in all other larger animals.

This most extraordinary creature is a native of Surinam. Its colour, (at least in such specimens as are brought over to Europe) varies considerably in different subjects; but it is generally brown, more or less deep, and in some, even approaches to blackness. It is a species of most striking deformity; the head is of a sort of pointed shape, the snout somewhat like that of a hog; and the toes of the fore-feet are at their extremities divided into four small processes.

I should not omit to observe, that according to the celebrated anatomist Camper, the Pipa is furnished with an internal uterus, or ovarium, and excludes its ova in the manner of other animals of this genus; and, from the observations of Fermin, (who declares he was an eye witness of the strange process,) it appears, that the male, after the exclusion of the ova, collects the whole heap, with his paws, and deposits it on the back of the female, where, (after impregnation) they are received into the cellules, which close over them, and in which they gradually arrive at their complete form, and are then again excluded.

This singular animal is calculated by nature for bearing young but once; and, compared with others of its genus, it cannot be regarded as very prolific; the number which the female Pipa, observed by Fermin produced, was seventy-five, which were all excluded in the space of five days.
SPHINX OCELLATA.

Character Genericus.

Antennae medio crassiores, seu utraque extremitate attenuatae, subprismaticæ.

Alee deflexae (Volatu graviore vespertino seu matutino.)


Character Specificus, &c.

SPHINX alis repandis: posticis ocellatis.


SPHINX alis angulatis: posticis rufis, ocello caeruleo.

Fabr. Syst. Ent. p. 536.


Plurimas quae infectis hujus classis accidunt, mutationes peculiari quadam laetitia solemus contemplari physici. Quamvis enim philosopho rem penitus intuenti fati confluet animal idem esse, nec adeo immutari ut fiat alterum; sed partes tantum gradatim explicari quæ sub forma infecti longe aliter apparentis latuerunt; non possimus tamen non admirari, nostramque e mortuis resuscitationem Papilionis metamorphosi plane obumbratam agnoscere.

Antiqui
Antiqui fane varias Papilionum vices, illoque a morte temporaria redivivos intuentes, (ut verifimile est) quasi animæ symbolum habuerunt. Vox enim $\phi\chi\nu\eta$ et pro anima et papilione usurpatur. Recentiores Physici histroriam naturalem ad religionis usum recte convertentes, ab hisce infectis mire adeo permutatis humani corporis resurrectioniem elucidare conantur. Exemplum tamen minus aptum feligunt, nemie Phalanam Mori, sive Sericam; utpote quæ nec sub terra immutatur, nec a morte accita, notabili est pulchritudine. At vero, inter omnia Naturæ phænomena, Sphinx, de qua jam agitur grandis et ultima humani corporis transformationis exemplum jure habeatur vividissimum. Eruca enim Sphinxis, pabulo suo satiata, sub terra alte se occultit, ibi exuvias ponit, et veluti mortua mensæ multos jacet; his ex ætis, iterum ab humo attollitur: tumuli clausura deferit, et inter animalia unum e formosissimis erumpit. Ipsius certe Apostoli idea, merito ab omnibus laudata, quae ad popularem captum nulla potest eflè accommodator, philosopho minus apta et vivida videtur, quam ejusdem mysterii elucidatio, de variis hujus infecti vicibus defumpta. Nec fane in omnibus suis operibus aliud clarius exemplum profert Natura.

De hac metamorphosi ita cecinit poeta anonymus.

Segnis et informis serpens eruca per herbas
Innocue viridi sustinet ora cibo.
Jam conviva fatur, pertæfa et lumina vitae
Quærit in effossa ponere corpus humo.
Exuit et vestem, ac cæcis commissa latebris
Dormit, et in placida morte quieta manet.

Hyberni
Hyberni fruftra fugiunt per paflua venti,
Altaque nix rigido jam tenet arva gelu.
Illa nihil sentit, tumuloque occlufa profundo
Dormit, et a vento tura, et ab hofte jacet.
At simul auratis aperit cum cornibus annum
Taurus, et a zephyris terra soluta viret,
Cum frondent fylvae, cum formofiflimus annus,
En! tumulo surgit pulchra phalaena fuo!
Surgit, et ut veteran rumpit jam clafltra sepulchri
Miratur speciem corporis ipsa fui.
Quam formofa vigens! O quantum diftat ab illa
Viderat errantem quam prior annus humi!
Alarum ornatum, gemmantes afpice ocellos!
Jam pluma in molli corpore multa nitet:
Mille trabens varios adverfo fole colores
Evolat, et caecos despicit inde rogos.
Blandaque purpureis filvecfa per aera pennis
Per nemora et varios expatiatur agros.
Inque vices lectifque rosif violifque superbe
Incubat, et forma vincit utraque sua.
Scilicet et noctri reputentur vana sepulchri
Præmia, cum tali testte probata manent?

Sphinx Ocellata, quam in adjuncta tabula pro ex-
emplo generis depingi curavimus, infectorum quæ in
Britannia nafcuntur, species est formofiflma. Larva
ejus super falice plerumque vifa, sub initio mensis Au-
gufti magnitudinem plenam adepta, sub terra fese fe-
pelit, et in chryfalidem mutatur, e qua, ineeunte fe-
quente Junio, phalaena ipsa erumpit.
THE

OCELLATED SPHINX,
OR

EYED HAWK-MOTH.

Generic Character,

Antennae thickest towards the middle, or attenuated at each extremity.

Wings deflected, i.e. floping downwards on each side, when closed. (Flight generally in the morning and evening.)

Specific Character.

Sphinx with repandous wings: the lower ones ocellated.


The EYED HAWK-MOTH.


The alteration of form during the different periods of life, which the insects of the Papilionaceous tribe undergo, affords a subject of the most pleasing contemplation to the mind of the Naturalist; and though a deeply philosophical survey demonstrates that there is
is no real or absolute change produced in the identity of the creature itself, or that it is in reality only the gradual and progressive evolution of parts before concealed, and which lay masqued under the form of an insect of a widely different appearance, yet it is justly viewed with the highest admiration, and even generally acknowledged as in the most lively manner typical of the last eventful change.

If any regard is to be paid to a similarity of names, it should seem that the ancients were sufficiently struck with the transformations of the butterfly, and its revival from a seeming temporary death, as to have considered it as an emblem of the soul, the Greek word ψεκτρον signifying both the soul and a butterfly.

Modern Natural Historians, impressed with the same idea, and laudably solicitous to apply it as an illustration of the awful mystery revealed in the sacred writings, have drawn their allusions to it from the dormant condition of the papilionaceous insects during their state of chrysalis, and their resuscitation from it: but they have unfortunately chosen a species the least proper for the purpose, viz. the Silkworm; a species which neither undergoes its change under the surface of the earth, nor, when emerged from its tomb, is it an insect of any remarkable beauty; but the larva, or caterpillar of the Sphinx, when satiated of the food allotted to it during that state, retires to a very considerable depth beneath the surface of the ground, where it divests itself of all appearance of its former state, and continues buried for several months, then rises to the surface, and bursts from the confinement of its tomb, and
and commences a being of powers so comparatively exalted, and of beauty so superior, as to be one of the most elegant of the whole insect tribe.

Even the animated illustration taken from the vegetable world, so justly admired, as best calculated for general apprehension, must yield in the force of its similitude to that drawn from the insect's life, since Nature exhibits few phænomena that can equal so wonderful a transformation.

This metamorphosis is thus described by an anonymous poet.

The helpless crawling caterpillar trace,
From the first period of his reptile race.
Cloth’d in dishonour, on the leafy spray
Unseen he wears his silent hours away.
’Till satiate grown of all that life supplies,
Self-taught, the voluntary martyr dies.
Deep under earth his darkling course he bends,
And to the tomb, a willing guest, descends.
There long secluded in his lonely cell,
Forgets the sun, and bids the world farewell.
O’er the wide waste the wintry tempests reign,
And driving snows usurp the frozen plain:
In vain the tempest beats, the whirlwind blows;
No storms can violate his grave’s repose.
But when revolving months have won their way,
When smile the woods, and when the zephyrs play,
When laughs the vivid world in summer’s bloom,
He bursts, and flies triumphant from the tomb.

And
And while his new-born beauties he displays,
With conscious joy his alter'd form surveys.
Mark, while he moves amid the sunny beam,
O'er his soft wings the varying lustre gleam.
Launch'd into air, on purple plumes he soars,
Gay Nature's face with wanton glance explores;
Proud of his various beauties wings his way,
And spoils the fairest flow'rs, himself more fair than they.

And deems weak Man the future promise vain,
When Worms can die, and glorious rise again?

The Sphinx Ocellata, figured on the annexed plate, as an example of the genus, is perhaps the most beautiful insect which this country produces. The caterpillar is generally found on willows. It arrives at its full size towards the beginning of August, when it buries itself, and changes to a chrysalis, from which, about the first week in the following June, proceeds the moth.
CERTHIA FAMOSA.

Character Genericus.

Rostrum arcuatum, tenue, subtrigonum, acutum. Lingua acuta. Pedes ambulatorii.


Picae.

Character Specificus.

CERTHIA rectricibus intermediis duabus longissimis, corpore viridi nitente, axillis luteis, loris nigris.


THE
SHINING CREEPER.

Generic Character.

Bill slender, incurvated, and sharp-pointed.
Tongue differing in shape in the different species.
Legs moderately stout.
Toes placed 3 before, and 1 behind; back toe large; claws hooked and long.


Specific Character, &c.

CREEPER with the 2 middle tail-feathers very long, the body of a shining green, the under wing-coverts yellow, the lores, (i.e. the spaces between the bill and eye on each side) black.

Lin.

FAMOUS CREEPER.

Latham. vol. 1. p. 720.

The very numerous genus Certhia contains several species whose colours are equal in splendor to the Humming-Birds. The species here represented is one of the largest of the genus. Its general colour is a rich
rich deep green, with a very strong tinge of copper-colour, which is most predominant on the neck and back. The bill is very long. The under parts of the shoulders, or axillae, are yellow, the outward parts black, edged with green. The long feathers of the wings, and the tail, are also black with green margins.

It is an African bird, and is found at the Cape of Good Hope.
HYDRA VIRIDIS.

Character Genericus.

Flos. Os terminale, cinctum Cirris fetaceis.
Stirps vaga, gelatinosa, uniflora. basi se affigens.

Character Specificus, &c.

HYDRA tentaculis subdenis brevioribus.

HYDRA VIRIDISSIMA.
Pall. Zooph. 3.

Ecce! redundabit foecundo vulnere vermis,
Fertilis et damnis dives ab ipfa suis!

Inter miracula Naturae juste referuntur variae genera Hydræ species. Tam ultra fidem singulares sunt earum vita, et propagandi modus, praeferint facultas quam habent vel in fruıtula difficile repullulandi, ut in summo haerent dubio Philo sophi; nec horum animalium historia plenam fidem adepta sit, donec experimentis a folerislimis Phylicis iterum iterumque factis
façis et omnibus modis variaţiis, proprietates earum miræ, et primo visu impossibile, tandem extra omnem dubitationem probatae essent.

Cum in hoc opere visum sit, res breviter ut possimus, proponere, non longis ambagibus historianium hujus infecit percurremus.

Hydra est animal aquaticum, cujus variæ sunt species; quarum quæ maxime vulgaris est, in tabula depictur, Hydra nempe viridis Linnæi. In aquis digit imperturbatis, plerumque in fossulis: in rivulis etiam per campos ductis frequens reperitur; præcipue mensibus Martii et Aprilis. Cauda se affigit caulibus plantarum aquaticarum, et paginis inferioribus foliorum. Corpore est longo, tubuloso: capite tentaculis octo seu decem longis, os cingentibus instructo. Corpus ita contrahere potest territo, ut globulum representet; causa vero timoris dempta, rursus in præstinam longitudinem se explicat. Animal valde est vorax; vermiculosaliaque aquas incoletia animalia praedatur. Cum vermiculus, aut aquaticum aliud animal ad Hydram parum fauste accedit, dicto citius eum arripit, brachiis seu tentaculis constringit, ad os attrahit, et ut anguis ranam inhaurit. Ano caret Hydra: omne igitur quod vorat, absorbitis humoribus nutritiiis, ab ore ejicit.

Vermiculum bis vel ter seipsum magnitudine superantem devorare facile potest; quod licet plane incredibile videri possit, notandum tamen est Hydram esse corpore valde tensili, et pro rei exigentia mirum in modum dilatato. Hydræ vegetatione se fæc propagant: junior enim vel duæ vel tres juniores e lateribus parentis erumpunt, ipsæ etiam hauad raro fæcundæ antequam
tequam parentem deferunt: ut duas vel tres generati-
one simul uni animaliad haarentes videre fit. Maxi-
me autem omnium mirabile adhuc indicium est; nem-
pe quod Hydra in partes diffccta, non destruca sed
multiplicata est vulneribus suis; fabulam de celeber-
rina antiquorum Hydra verissimam reddens,

"Fertilis, et damnis dives ab ipfa suis."

Hydra non præter solitum magna commodo in tres
partes dividi potest: nempe forficem insinuando intra
vitrum in quo fervatur Hydra, et arrepta occasione,
ad extremum extensam dividendo; partem etiam pos-
teriorem cum se rursus extenderit, diffcando. Hoc
facto, pars posterior novum caput cum tentaculis pro-
duct; anterior pars novam caudam, et media pars
novum caput cum tentaculis et nova cauda: elapliique
paucis diebus, omnes aequo erunt integrae ac si man-
fissent invulnerata. Ut verbo dicam, Hydræ omni-
bus modis dividi possunt fine injuria, et molestiam mo-
ramque frequentium experimentorum renatae fatis re-
munerabunt. Hydræ viridem, utpote speciem apud
nos vulgatissimam, pro exemplo selegi: communis ejus
longitudo est a quadrante uncii ad semieunciam, ex-
clusis tentaculis; interdum tamen multo major et lon-
gior conspicitur. Mirum hoc animal a Leewenho-
eckio circiter finem centuriae jam elapsæ detectum est,
qui tamen ejus proprietates ignoravit. Oblitum vide-
tur esse post Leewenhocckium usque ad annum mille-
simum septingentosimum quadragésimum, cum iterum
a Domino Trembley repertum est; qui innumeris ex-
perimentis, miras omnes qualitates, et praescr tum re-
pullulandi facultatem in lucem protulit. Experimen-
ta
ta hæc cito vulgata sunt, et ab omnibus Europæ Physicis repetita. Hoc modo plures Hydræ repertæ sunt, cum variis aliis animalibus eandem repullulandi potestatem habentibus; et nova velut Epocha in Historia Naturali exorta est.

Fig. 1. Hydra magnitudine aucta.
Fig. 2, 3, &c. Hydræ magnitudine naturali; et alia leviter auctæ.
Fig. 7. Hydra vermiculum arripiens.
THE
GREEN POLYPE,
OR
HYDRA.

GENERIC CHARACTER.

Body long and tubular.
Mouth surrounded by arms, or tentacula.

SPECIFIC CHARACTER.

POLYPE with about 8 or 10 arms, or tentacula.

See with new life the wond'rous worm abound,
Rich from its loss, and fruitful from its wound!

The various species of Polype, or Hydra, are justly ranked amongst the most wonderful productions of Nature; so extraordinary are the particulars of their life and mode of propagation, as well as their powers of reproduction after being cut in pieces, that at their first discovery the philosophic world was involved in scepticism; and the History of the animals did not obtain complete credit, till experiments repeated by the most diligent and accurate Naturalists, and varied in
in every possible manner, at length incontestibly proved the truth of their surprising, and seemingly impossible properties.

As it is the intention of this work to give as short descriptions as the nature of the subject can admit of, we shall, in our account of this animal, only relate in very plain and brief terms the general history of the creature.

The Polype is an aquatic animal, of which there are several species: of these one of the most common is that represented on the annexed plate; viz. the Green Polype, or Hydra Viridis of Linnaeus. It is a native of clear waters, and may generally be found in great plenty in small ditches and trenches of fields; especially in the months of April and May. It affixes itself by the tail to the under part of the leaves, and to the stalks of such vegetables as happen to grow immersed in the same water. The animal consists of a long tubular body, the head of which is furnished with eight, and sometimes ten long arms, or tentacula, which surround the mouth or opening. It is capable of contracting its body in a very sudden manner when disturbed; so as to appear only like a roundish green spot; and when the danger is over, it again extends itself as before. It is of an extremely predacious nature, and feeds on the various species of small worms, and other water-animals which happen to approach: when any animal of this kind passes near the Polype, it suddenly catches it with its arms, and dragging it to its mouth, swallows it gradually in the same manner as a snake swallows a frog. The Polype has no anus
anus or vent; it therefore again evacuates the remains of the animal on which it has preyed, by its mouth. It is capable of swallowing a worm of twice or thrice its own size; which at first appears incredible; but is easily understood when we consider that the Polype's body is extremely extensile, and is dilated on such occasions to a surprising degree.

The usual manner in which Polypes propagate is by vegetation; one or two, or even more young ones emerging gradually from the sides of the parent animal; and frequently these young ones are again prolific before they drop from the parent; so that it is no uncommon thing to see two or three generations at once on the same animal. But the most astonishing particular is yet untold; viz. that if a Polype is cut in pieces, it is not destroyed but multiplied by its wounds, and what was said of the fabulous Hydra of the ancients, is here literally true;

"Fertilis et damnis dives ab ipfa suis." *

A Polype of the common size may be very conveniently cut in three pieces, by taking the opportunity, when the creature is fully extended, of introducing a pair of scissors gently into the glass in which it is kept, and dividing it suddenly; and when the tail-part is again extended, repeating the same operation; in this case the tail-part will produce a new head and arms, the head-part a new tail, and the middle part will reproduce both head, and arms, and tail; and all these will in a few days become as perfect, except in length,

* Rich from its loss, and fruitful from its wound.
as the animal was at first. In short, Polypes may be cut in all directions and in every manner that can be conceived, without injuring them; and will amply repay the trouble attending the experiments by the astonishing views which they will exhibit during their different degrees of growth.

As the green Polype is one of the most common animals of the kind in this country, we have selected it as the best and most familiar example of the genus: Its most general length is from a quarter to half an inch, when extended, exclusive of the arms; but sometimes it grows to a much greater extent. The first discovery of this animal was towards the end of the last century by Leewenhoek; but he was not acquainted with its extraordinary properties of reproduction. It seems to have been neglected after Leewenhoek's observation, till the year 1740, when Mr. Trembley of Geneva again discovered it; and by innumerable experiments was convinced of its reproductive nature. His experiments were soon made public; were repeated by all the Naturalists of Europe; several other species were discovered, as well as many other animals which possess the same power of reproduction, and a new Era commenced in the annals of Natural History.

Fig. 1. A Polype magnified.
Fig. 2, 3, &c. Polypes, some in their natural size, and others slightly magnified.
Fig. 7. A Polype seizing a worm.
LACERTA MONITOR.

Character Genericus.

Corpus tetrapodum, caudatum, nudum.


Character Specificus, &c.

LACERTA cauda carinata, corpore mutico maculis ocellatis.


Seba. Mus. vol. 1. t. 97. Fig. 2.
— vol. 1. t. 94. Fig. 1. 2.
— vol. 2. t. 30. Fig. 2. & tab. 49. Fig. 2.
— vol. 2. t. 86. Fig. 2.

Nomen Monitor huic Lacertæ datum est, quoniam, (quod valde dubium videtur,) crocodilo viso, clamorem argutum praet metu tollere dicitur; hoc modo viatores de monstrō isto appropinquante haud raro admonens.

In magnam molem faspe crecit Monitor, et gracili est forma, caudam habens longissimam. Color ejus communis est niger, albo variatus. Variationes albae in fascias transversas macularum circularium centro nigro dispositae sunt, et inter has fascias aliae plerumque occurrunt angustae, seu velut striatae. Variationes super caudam, non, ut in reliquo corpore, ad normam, fed

Elegans hæc Lacerta in Indiæ Orientalis simul ac Americæ partibus Australioribus nascitur.
THE MONITORY LIZARD.

Generic Character.

Body four-footed, tailed, naked.


Specific Character, &c.

BLACK LIZARD, marked with transverse bands of ocellated white spots.

This species of Lizard has obtained the name of Monitor, from a circumstance which seems of very doubtful authority. It is pretended that on sight of the crocodile, it sets up a loud and shrill cry through fear, and thus frequently warns travellers of the vicinity of that formidable creature. It grows to a considerable size, and is of a very slender make, and the tail is extremely long. The general colour of the animal is black and white; the black forming the ground-colour, and the white the variegations, which are disposed in transverse bands of annulated spots with black centres, and between these bands are generally some narrowish stripes of white. On the tail the variegations are less regular than on the body. The legs and feet are spotted transversely with white. On the belly the white prevails, which is marked more or less with
with transverse streaks and spots of black. Sometimes this animal varies in colour; the ground being rather brown or ferruginous than black.

This elegant Lizard is found both in the East-Indies, and in the Southern parts of America.
**STRIX PULCHELLA.**

**Character Genericus.**

*Rostrum* aduncum (absque cera.)
*Nares* pennis fetaceis recumbentibus obtestaet.
*Caput* grande: auribus oculisque magnis.
*Lingua* bifida.

*Ord. Accipitres.*

**Character Specificus, &c.**

*STRIX* capite auriculato, corpore cinereo, punctis maculis striisque nigris variato, remigibus albo maculatis.

*STRIX PULCHELLA.*

*Pallas.*


Avicula, magnitudine naturali in tabula depicta, est omnium noctuarum hastenus cognitarum minima. Inter eas species sui generis militat quae nomine noctuarum auritarum distinguentur; quorum nempe temporae fasciculis plumosis exflantibus ornantur. Sibiriam habitat, et varias Moscoviae regiones. Species est maxime elegans et concinna. Color ejus primarius est dilutissime cinereus, seu canus, punctis innu-meris
meris maculisque nigris et subferrugineis pulcherrime irroratus. Alarum remiges, seu pennae fusco alboque fasciatae. Cauda quoque albido leviter fasciata est; et tota avis coloribus suis avi Torquillae non est absimilis. Pectorus et abdomen albicant, maculis longitudinalibus nigris notata.
THE
LEAST HORNED OWL.

\[ \text{Generic Character.} \]

Bill hooked, not furnished with a cere.

\[ \text{Nostrils covered with recumbent brislly feathers.} \]

\[ \text{Head large: Ears and Eyes very large.} \]

\[ \text{Tongue bifid.} \]

\[ \text{Specific Character, \\&c.} \]

HORNED OWL with pale grey plumage, varied with specks and markings of black and brownish; the long feathers of the wings spotted with white.

SIBERIAN OWL.

\[ \text{Latham. Synopf. vol. 1. p. 130.} \]

The bird here represented in its natural size, is the least species of Owl yet known; it is of that division of the genus which contains the species commonly called Horned Owls, or such as have a tuft of feathers standing up on each side of the forehead. It is a native of Siberia, and is found in several parts of Russia. It is a species of uncommon elegance of plumage. The general
general or ground colour is a very pale grey or ash-colour; curiously sprinkled all over with innumerable points and spots of black, brownish, &c. The long feathers of the wings are barred with brown and white; the tail is also slightly fasciated with white, and the whole plumage bears a very considerable resemblance to that of the Wryneck. The breast and belly are whitish, with longitudinal marks of black.
OPHRYS APIFERA.

Character Genericus.

Nectarium subtus subcarinatum.


Gynandria Diandria.

Character Specificus, &c.

OPHRYS bulbis subrotundis, scapo foliofo, nectarii labio subquinquelobo.


OPHRYS radicibus subrotundis, labello holofericceo, emarginato et appendiculato.


Notum epigramma, parce detortum, Ophri Apiferae non male convenit.

Dum dubitat vel apem Natura an fingeret herbam,
Conjuxit formas ingeniosa duas.
THE

BEE OPHRYS.

The Nectary of a somewhat keel-shaped appearance on its lower surface.


Specific Character, &c.

OPHRYS with roundish bulbs, leafy stem, lip of the nectary notched into five lobes.

Lin.

OPHRYS with 5-petaled flowers, of which the 3 exterior petals are large, acuminate, and of a very pale purple; the 2 interior ones small, very narrow, and greenish; the nectarium large, convex, brown, of a velvety surface, and marked with yellow spots and streaks.

ORCHIS, f. Testiculus vulpinus 2 sphegodes.

Gerard emac. p. 212.

ORCHIS sphegodes, seu fucum referens.

Park. 1350.

The plant figured is well known to the admirers of botany by the title of the Bee-Orchis. It flowers in June and July. It is found principally on hilly grounds, and
and near woods, especially on a chalky soil; but it is never seen in such complete perfection as when it happens to grow in the shade of a wood, as in this situation it escapes all those injuries which the leaves are so apt to suffer, when growing in a too sunny exposure.

So striking is the general resemblance which the flowers, when viewed at a little distance, bear to an Insect, as to have uniformly impressed all observers with the same idea; and may almost justify the application of the epigrammatic description.

Nature in doubt a beauteous Flow’r

Or Insect to disclose,

At length beneath her forming pow’r

They both in union rose.
BOA CANINA.

CHARACTER GENERICUS.

Scuta abdominalia.
Scuta subcaudalia. (absque crepitaculo.)


CHARACTER SPECIFICUS, &c.

BOA viridis, fasciis dorsualibus transversis albis, scutis 203, scutulis 77.

Seb. Mus. vol. 2. tab. 81, 96.

Quamvis plurimae sint serpentes quae spectatores horrore et formidine potius quam voluptate afficiunt, multae tamen sunt species quae pulcherrimos colores ssumamque elegantiam jactare possunt. Qui exemplum desiderat adeat anguem Scytalen in hoc opere antea depictum. Alterum est exemplum species de qua jam agitur. Genus ad quod haec serpens refertur, scutorum continuata serie per totam corporis inferioris longitudinem distinguitur.

Laminae omnes serpentum in parte inferiore, seu ventre, nomine Scutorum a Linnaeo distinguantur, nec cum squamis superioribus confundi possint: sed quoniam scuta quae sub cauda sunt, ab aliis different, ut-pote breviora seu minus dilatata, fatius puto haec nomine Scutorum appellare, quo melius a scutis, seu laminis largioribus possint dignosci. Quamvis torvo sit haec
hæc serpens et maligno vultu, nullo tamen veneno imbuitur, et simplici tantum vulnere laedit; utpote telis tubulatis et facculo veneni, quibus noxia serpentes armantur, plane cares. Color ejus est subcæruleoviridis, admodum vividus, per dorsum fasciis transversis albidis varietas: ventrem etiam habet albidum, sed flavo inquinatum. Americae est incola.


Sed audi Linnaei ipsius descriptionem hujus serpentis ex museo Adolphi Friderici.


"Truncius compressus, praefertim versus abdomen: squamis lavibus. Abdomen albidum: scutellis 203. Cauda \( \frac{1}{2} \) totius, subtus scutellis 77, spithamea, attenuata, obtusiuscula.

"Color viridis fasciis transversis, albis, angustis, tantum dorsalis, medio interruptis.

"Longitudo quadripedalis. Craffities fere brachii angustioris."
THE CANINE BOA, OR DOG-HEADED SNAKE.

GENERAL CHARACTER.

Transverse Lamella, both on the abdomen, and beneath the tail.

SPECIFIC CHARACTER.

GREEN BOA, with white transverse dorsal bands; with 203 scuta on the abdomen, and 77 scutula beneath the tail.

Though the serpent tribe undoubtedly abounds with species which may well be considered rather as terrible than pleasing objects, yet there are not wanting numerous examples of the greatest elegance and beauty of colour in this class of beings. Of this the Anguis Scytale, or Painted Snake, figured in a former Number of this Work, may be regarded as a striking instance, and the animal here represented may be adduced as another. The genus of Serpents to which this species belongs, is distinguished by having a continued series of plates, or transverse scales, throughout the whole length of its lower surface.
The large plates on serpents are called, in the Linnaean language, by the name of Scuta, to distinguish them from the Squamae, or scales on the other parts of the body: but as those scuta which are situated under the tail, differ from the rest in being smaller or less extended, and form a separate assortment from the abdominal ones, they should always be called by a name which should instantly distinguish them from the Scuta or larger plates. I have therefore called these smaller scuta by the name of Scutula.

Notwithstanding an appearance of malignity in this animal, it is not of a venomous nature; that is, it is not capable of inflicting any other than a simple wound by its teeth, as it is unprovided with the tubular fangs and reservoir of poison with which the venomous serpents are furnished.

Its colour is a most beautiful vivid Saxon or bluish-green, with several broad transverse bars of white down the back; the belly is of a white colour, but slightly tinged with yellow. It is an inhabitant of America.

The figure of this Snake in Seba’s Museum is so well executed both as to posture and accuracy, that it was thought better to copy it than to attempt a new one.

In the British Museum is a fine specimen of this animal. It is also figured in the Museum Adolphi Frederici of Linnaeus, but the figure in that work is far from having the elegance of Seba’s representation.

The description of this serpent by Linnaeus in the Mus. Adolph. Frid. is as follows.

“Head cordated, oblong before the eyes, depressed, gibbous behind, imbricated with small scales; the
"anterior ones, especially at the sides before the eyes, larger than the rest. Upper Lip retuse before, white, emarginated, the sides excavated with a series of deep scaly furrows, which give the face a formidable appearance. Teeth situated towards the anterior part of the mouth, 2 or 3 in each jaw, both above and below, long, sharp, fixed, not retractile. Nostrils linear, transverse. Eyes orbicular.

"Trunk compressed, especially towards the abdomen: covered with smooth scales. Abdomen white; Scuta 203. Tail 1-7th of the whole, attenuated, somewhat obtuse, covered beneath with 77 Scutula.

"Colour green, with transverse white bands, which are narrow and situated on the back only, and somewhat broken or interrupted towards the middle.

"Length 4 feet. Thickness nearly that of the smallest of the arm."
STRIX NEBULOSA.

Character Genericus.

Rostrum aduncum. (abfque cera.)
Nares pennis setaceis recumbentibus obtectae.
Caput grande: auribus oculisque magnis.
Lingua bifida.

Ord. Accipitres.

Character Specificus, &c.

STRIX fusco albidique transversim fasciata, ab-
domine albo maculis oblongis ferrugineis.

Lath. Synopf. p. 133.

Hæc avis inter magores sui generis exstat, quamvis
aliiis speciebus magnitudine impar. Specimen a Doc-
tore Forster in Actis Anglicis descripsit. pondere
erat librarum trium, longitudine sedecim unciarum,
latitudine quatuor pedum. Tota avis fusco albidique
colore transversim fasciata est, fasciis versus caput mi-
noribus et numerosioribus. In imo ventre et super la-
tera sunt maculae variæ longitudinales, magnæ, ferru-
gineo-sufcae. Pallidae quæ oculos cingunt plumae,
M striis
THE CLOUDED OWL.

_GENERIC CHARACTER._

_Bill_ crooked (not furnished with a cere.) _Nostrils_ covered with recumbent bristly feathers. _Head_ large: _Ears_ and _Eyes_ large. _Tongue_ bifid.

_Lin. Syll. Nat._— _Accipitres._

_SPECIFIC CHARACTER, &c._

_OWL_ transversely fasciated with brown and whitish, the belly white with oblong ferruginous spots.

BARRED OWL.

_Lath. Synops._ p. 133.

This is one of the larger species of Owls, though inferior in size to some others of the genus. A specimen described by Dr. Forster in the Philosophical Transactions weighed three pounds, and was in length sixteen inches, and in breadth, when extended, four feet. The whole bird is transversely barred with brown and whitish; the bars being smallest, and most numerous.
rous towards the head. On the lower part of the belly, and on the sides, are some large longitudinal marks of ferruginous brown. The feathers surrounding the eyes are of a pale colour, lightly marked with concentric striae of brownish. On the long feathers of the wings and tail, the alternate bars of brown and white are larger and more conspicuous than on the other parts. The colours on the whole bird are soft, and very elegantly disposed. It is a native of Hudson's Bay.
ACTINIA ANEMONE.

Character Genericus.

Corpus fe affigens bafi, oblongum, teres: apice dilatabili intus tentaculato. 
Os terminale dentibus incurvis; rostro cylindrico radiato.
(Apertura præter os nulla.)

ANIMAL fe affigens bafi, carnosum, oblongum, teres, conraatifile, viviparum.
Os terminale, dilatabile, tentaculis cinetum.
(Apertura præter os nulla.)

Character Specificus, &c.

ACTINIA subcylindrica, breviuseula, rubra, tentaculis interioribus ramosis, exterioribus conicos, obtulis.

AN ACTINIA EQUINA?

Si Zoologiae classis inferiores attentius scrutemur, multa inveniemos formæ adeo insolutæ et naturæ velut ambiguæ, ut dubium videatur sintne inter plantas, an inter animantes memoranda. Plurima hujusmodi a cele-
a celeberrimo Linnæo sub nomine Molluscorum digeruntur; ita fecilicet ordinem constituentia classis Vermium. Inter varia Molluscorum genera nullum genus Astinie aut pulchritudine aut miro artificio praebellit.

Multæ hujus generis species nomine Anemones marinae descriptæ sunt, utpote formam floris Anemones, cum expanduntur, præ se ferentes.

Species autem hic depicèta, peculiari modo hæc appellatione digna videtur: illam igitur nomine Astinie Anemones distinguere non dubitavi. Quamvis perquam vulgaris sit hæc species in varis Europæ littoribus, et nullis frequentior quam nostratibus, a Linnæo tamen in Systemate Naturæ minus videtur descripta. Rupibus arète adhaeret, et mari refluente, interdum nuda super rupes, plerumque tamen paulum sub aqua relinquitur. Color illi generalis est ruberrimus, plus minus vividus in diversis speciminiis. Magnitudinem representant tabulae. Dum contrahitur (Fig. 1.) cono obtusissimo similis est, apice aperto, quem pro arbitrio penitus claudere potest: plerumque tamen adeo referatus est apex, ut ramosa aliquot tentacula centralia emergant. (Fig. 2.) Animal autem expansum spectaculum exhibet pulcherrimum omnino et mirandum. Duplicem enim, et interdum triplicem in circumferentia ordinem tentacularum protrudit, forma oblonga, apicibus obtusiis, quibus color flavus est, rubro eleganter variatus: hoc modo florem a quo nomen habet, op tie exprimens. (Fig. 3.) Tentacula centralia mune non exeruntur, fed ampla in medio relieta est cavitas, in quam si aliquid extraneum introducitur, aut si aliqua tentacula vel leviter tanguntur, illico se fortiter contrahit.
contrahit animal, et in formam coni, (ut in Fig. 1.)
rufus subducitur. Hanc Actiniae speciem interdum
a rupe sua detraxi, vidique illam mirabundus paulo
post, cum languescere cepit, omnia pene viscera pro-
trudentem in formam membranae inflatae et late expan-
fæ, coloris flavescentis, radiis subrubris et viride pal-
lentibus variati. (Fig. 4.) Cum hoc fit, tentacula cen-
tralia non exserta sunt, series autem duplex vel triplex
tentaculorum in circumferentia pulchre expanditur.
Viviparae sunt Actiniae, sed ab experimentis in nonnullis
speciebus hujus generis demonstratur possi animal
(adhibita cautela) in partes abscondi, et hoc modo pro-
pagari, singulis partibus gradatim ad perfectionem re-
pullulantibus.
THE
ANEMONE ACTINIA.
OR
SEA ANEMONE.

Generic Character.

Body oblong, nearly cylindric, fixing itself by the base, the top expansile and tentaculated within.

Mouth terminal, furnished with crooked teeth.
No other Opening except that of the mouth.

Specific Character.

ACTINIA, of a nearly cylindric shape, shortish, with the interior tentacula ramified, the exterior ones conic and obtuse, Colour red.

When we take a view of the lower orders of Zoology, we find a large and singular set of beings, which are so widely distinct from the other tribes of the animal world, that they seem almost as nearly allied to vegetables as to animals. Many of these curious productions of Nature are arranged by Linnaeus under the title of Mollusca; which title is one of the subdivisions of the Linnæan tribe of Vermes. Of the various genera
genera belonging to the Mollufca, that of Actinia is perhaps the most elegant and curious. Many species of this genus have been called by the name of Sea-Anemonies, from a general resemblance which they bear, during their expanded state, to that flower. The species here represented, seems in a peculiar manner worthy of this name. I have therefore given it the title of the Anemone Actinia.

Though extremely common on several of the European coasts, and on our own in particular, it does not seem distinctly mentioned by Linnaeus in the Systema Naturae. It adheres firmly to the rocks, so as to be frequently left above water at the ebbing of the sea; but it is generally found adhering at some little depth below the surface of the water. Its general colour is a deep red, more or less vivid in different specimens, and of the size represented in the annexed plates.

When in a state of contraction, (as at Fig. 1.) it has the appearance of a very obtuse cone, with an orifice at the top, which it can at pleasure close entirely; but which is generally so far open, as just to exhibit a few of the interior branchy tentacula or central parts. (Fig. 2.) but when expanded, it presents a most curious and beautiful appearance, (Fig. 3.) it then displays a triple row of circular tentacula of an oblong form, with obtuse points, of a yellow colour, and varied with red in such a manner as to bear a very considerable resemblance to the flower from which it is named. In this state the central tentacula are not protruded, but a large cavity appears in the middle, into which, if any extraneous substance is introduced, or even if any of the
the tentacula are but slightly touched, the animal instantly contracts itself into a conoid shape again, (as at Fig. 1.)

I have sometimes taken this species of Actinia from its native rock, and have observed that after some time, when it grew languid, it protruded in a most extraordinary manner almost the whole of its interior parts or viscera, in the form of an inflated membrane of a pale yellow colour, and striped very elegantly with rays of red and pale sea-green. (Fig. 4.) In this state it does not protrude any of the central or branchy tentacula, but the rows of lateral ones are protruded all round the circumference. The Actiniæ are viviparous animals, and experiments have been made on some of the species of this genus, which prove, that they are capable of being cut (with proper care) into several parts, each of which by degrees becomes complete.
PAPILIO POLYMNESTOR.

Character Genericus.

*Antennae* apicem versus crisfores, faepius clavato-capitatae.

*Alae* (fedentis) erectae sursumque conniventes. 

*(Volitu diurno.)*


Character Specificus.

PAPILIO alis dentatis subconcoloribus nigris, posticis apice caeruleoentibus nigro maculatris.


*Eq. Troj.*

Elegans hoc insectum, Asiam incolens, est inter species a Linnaeo non descriptas. *Alae* ejus superiores sunt aterrimae, nubeculis tamen paucis albeoentibus in longitudinem juxta apices dulcis, et prope basin nota exflat subtrigona produeta coccinea. Alarum inferiorum basis est aterrima et holosferica, pars autem reliqua colorem habet e subcaeruleo albicantem, maculis nigris niveisque ornatum.
THE POLYMNESTOR BUTTERFLY.

**Generic Character.**

*Antennae* (or *Horns*) thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

*Wings* (when fitting) erect, and meeting upwards. (Flight diurnal.)


**Specific Character.**

BUTTERFLY with indented black wings, colour of both surfaces nearly the same, the lower wings blueish towards the tips, and spotted with black.

This beautiful insect is one of those species which are not in the works of Linnaeus. It is an inhabitant of Asia. The upper wings are of a deep black, with a few longitudinal whitish clouds towards the tips, and a lengthened mark of deep crimson of a somewhat triangular shape, near the base of each. The lower wings are of a deep velvet-black at the base, and from thence of a most elegant whitish or extremely pale blue, ornamented with spots of black and snow-white.
LEMUR TARDIGRADUS.

**Character Genericus.**

_Dentes primores_ superiores 4: intermedias remotis. Inferiores 6: longiores, porrecti, compressi, paralleli, approximati.

_Laniiii_ solitarii, approximati.

_Molares_ plures, fublobati; antici longiores, acutiores.

_Lin. Syll. Nat._ p. 44.

**Character Specificus, &c.**

LEMUR ecaudatus, fulberrugineo-cinereus, linea dorsoali fulca.

LEMUR ECAUDATUS.

_Lin. Syll. Nat._ p. 44.

Singulare hoc animal interdum pro Bradypi specie errantes habuerunt autores, et nomine Tardigradi Ceylonici descriptissimant. Bradypo tamen nequaque aptus est, nisi quod, (ut ipsum nomen vult,) tarde admodum gradatur; in quo sane ab omnibus aliis sui ieiun generis speciebus insignitur differt: sunt enim illae ingenii maxime vividi, et motus omnino celerissimii. Notabile etiam est quod vel nilo caudae vestigio penitus careat. Indiam Orientalern, et praeipue insulam Ceyloniam inhabitat Lemur Tardigradus. Magnitude
nitudo ejus est sēre felis junioris domesticae. Coloris est pallide fusci: oculi autem circulis obscuris, seu fusco-nigrificantibus cinguntur, qui supra caput coeuntes, lineam eodem colore continuatam per dorsi longitudinem ducent.

Pellis illi est delicatula et mollissima. Facies est quasi antice truncata, naso subacuminato: oculi magni, valde convexi, perfectas velut hemisphaerias repræsentant, iridibus coloris sēre succinei. Digitus interior pedum posteriorum unguem acutum gerit; cæteri digitis ungues rotundatos et complanatos habent. Sylvas incolit, et fructibus vescitur; sed et animalia fertur devorare; aviculas scilicet; quod (ut mihi videtur) ob insignem tarditatem vix verisimile est. Alia est hujus generis species, vere diversa, huic nostræ tamen in multis similis, cùique etiam cauda deficit; sed multo minor, multo gracilior, et velocior; quam cum Lemure Tardigrado confundunt nonnulli auctores, et communiter nomine Loris cognoscunt.
THE SLOW-PACED LEMUR.

Generic Character.

Six Cutting Teeth, and two Canine Teeth in each jaw.

Vilage (generally) sharp-pointed.

Feet formed like hands, in the manner of apes.

Specific Character, &c.

TAIL-LESS LEMUR, of a subferruginous ash-colour, with a brown dorsoal line.

TAIL-LESS MACAUCO.


This curious animal is sometimes improperly regarded as a species of Sloth, and has been called the Ceylon Sloth; but it is not in the least allied to that genus, and has only been so named from the slowness of its motions; in which it differs in the most striking manner from all other species of its own genus, which are animals of the most lively disposition, and the most vivid celerity of motion. Another peculiarity belonging to this creature, is the total defect of a tail, of which not so much as a vestige appears. It inhabits the East-Indies, and particularly the island of Ceylon. Its size
is nearly that of a young cat. Its colour a uniform palish brown, but the eyes are surrounded with circles of deep brown or blackish, which unite on the top of the forehead, and from thence a continued line of brown runs down the back. The fur on the whole animal is remarkably fine and soft. The face very flat, but the nose somewhat sharpened. The eyes are large and extremely convex, so as to appear like perfect hemispheres. The irides are amber-coloured. The inner toe of each hind-foot is furnished with a sharp, crooked claw, while the rest of the toes have flat, rounded nails. It inhabits woods, and feeds on fruit; but is likewise said to eat animal food, and to kill small birds, but this, on account of its extreme slowness, does not seem very probable.

There is another species of this genus, which agrees with this in many particulars, and is destitute of a tail, and has sometimes been confounded with it; but in reality it is a very different species; being much smaller, and having both limbs and body much thinner in proportion: it is called by several authors by the name of the Loris.
HELIX HORTENSIS.

Character Genericus.

Animal Limax.
Testa univalvis, spiralis, subdiaphana, fragilis.
Apertura coarctata, intus lunata, f. subrotunda: segmento circulo dempto.


Character Specificus, &c.

HELIX testa imperforata pallida, fasciis latis interruptis fuscis.

COCHLEA vulgaris major pulla maculata et fasciata hortensis.

List. Angl. tab. 2. fig. 2.

AN HELIX LUCORUM?

Lin.

Militat omnis amans, et habet sua castra Cupido:
Attice, crede mihi; militat omnis amans.

Ov.

Helix vulgaris, seu ut communiter vocatur, Cochlea, in numero est animalium quae ob vilitatem, for- mamque fordidam et abjectam, a plerisque contenti et negligi solent; in quibus tamen plura fortasse dif- cernere
cernere potest physicus quae delectionem admirationemque excitent, quam vel in majoribus animalibus. Cochlearum enim anatome adeo mirabilis plena est, ut de variis illarum partibus integrum volumen posset componi. Cum vero longis ambagibus spectatim has minutias describere lectoribus plurimis molestum sit, breviter tantum illa percurremus memoratu dignissima. Oculi Cochlearum in summitatibus duorum longiorum tentaculorum, seu ut vulgo vocantur, cornuam siti: quod licet a quibuscumque physicis dubitatum sit, ab experimentis tamen et accuratissimis Swammerdamii investigationibus clare confirmatur: probatur quoque eos cosdem esse humores, tunicas, et vasa, quibus animalium majorum oculi instruentur, continere. Non desuere qui Cochlearum cornua pro veris telescopiis naturalibus habuerunt, asferrerentque posse illas ea vel extendere vel contraire pro distantia objecti ad quod oculos directurint. Hae autem idea structuram magis multimodam arguit, quam revera his organis tribuit Natura, et forsitque inter plurimas sit haec hypothelis, quas ingenio suo indulgere solent nonnulli Naturae speculatores.

Dentes Cochleae sunt validi et acuti, omnesque corporis partes tam interiores quam exteriores ad animales illius mores habitusque egregie accommodantur.

De miro generandi modo diciturus, lectores meos enixe orem nece sit ut nec me fabulas philosophicas fingere existimem, nec fidem suam desicere et immuni sit.

Si quidem vera nobis referunt oculati Naturae inter animalia inferiora investigatores, Cochlearum amores inuitato
inuitate et fibi peculiari quodam more promoventur; sempereque ipsum complexum præcedit mira formula, qua pugnae flatariae faciem omnino exhibet.

Cochleæ lascivientes mutua vota telorum parvulorum ictibus, que peracuta sunt et quasi cornea, fibi invicem communicant; illisque refertam pharetram exiguam, in dextro latere cervicis sitam, quamdiu permanerit illis conjunctionis desiderium, intus gelant. Emisso primo telo, illico respondet Cochlea vulnerata, et simile in amantem jaculatur; ab illa telum alterum emittitur, rursusque ipsa invicem percutitur; Cupidinisque sagittæ, quas per omne ævum cecinit servidum poetae et amantium ingenium, in ipsa tandem Natura revera inveniuntur. Peraçto hoc lepido praelio, coeunt Cochleæ, et deinde locum idoneum ubi ova sua deponant sphericite quaeritant; humidum nempe et opacum recessum, vel sub terræ gleba, vel cavo aliquo tegmine. Rotunda sunt hæc ova, magnitudine fere pisolorum parvulorum, coloris albi superluecentis, et substantiae mollis. Ex his excluduntur Cochleæ plene formatæ, testas suas in dorso ferentes, nec ullam aliam mutationem praeter naturale molis incrementum subuent. Hortis et pomariis damnnum non leve inferre solent Cochleæ, et notatum dignum est, illas, si defecerit cibus succulentus, frueæ nempe aut folia, corpora etiam dura et sicea rodere: memini enim egomet Helicem hortensam, (qualis est illa quæ hic depingitur,) sub vitro cujus diameter quatuor uncias superabat inclusam, subfratam chartam communem caeruleam una nocte ufque ad ipsius vitre marginem devorâfæ; circulo relicto velut ab ipso circino designato.
Ab experimentis Spallanzanii aliorumque probatur, Cochleas, abscessa aliqua parte, repullulando facultatem habere: ipse enim Spallanzanius Cochleae caput abscessit, quod, elapso certo tempore perfecte regerminabat. Hujus experimenti veritas, licet a nonnullis denegetur, ab aliorum tamen doctissimorum physicorum testimonio fatis comprobatur.

Quanquam variis intervallis sagittas suas jaculentur Cochleae, fatendum tamen est tabulam representare illas plus aequo a se invicem remotas. Plerumque proprius accedunt; immo interdum fit ut telum ipsum, gladii instatus, in corpore opposito infixum flet, dum Cochlea qua jaculum emiserit, recedit paululum, sagittam quasi commilitonis sui exspectans.
THE
GARDEN SNAIL.

Generic Character.
The Animal a Slug.
Shell spiral, sub-pellucid.
Aperture semi-lunar.

Specific Character, &c.
SNAIL with a shell of a pale colour, with broad interrupted bands of brown.

The COMMON GARDEN SNAIL.

See to the fight the gentle warriors move,
And dart with harmless force the shafts of love!

The Snail is amongst the number of those animals which we are apt to overlook on account of their seemingly contemptible appearance, but which will perhaps open to our attentive survey a greater variety of curious particularities than most other creatures can exhibit. The anatomy of the snail is full of wonders, and a volume might be written on its history; but, without descending to a tedious narrative of all its parts, I shall only mention a few of the most remarkable ones. The eyes of Snails are situated on the tips of the two longest horns, and though their existence has
has been questioned by some Naturalists, yet the accurate research of Swammerdam has sufficiently proved their real nature, and that they are furnished with nearly the same humours, coats, and vessels as in most of the larger animals. Some authors have supposed the horns to be a kind of natural telescopes, and that the animal shortened or lengthened them according to the distance of the objects to which it directed them; but this idea seems to imply a more complicated structure than can be found in this organ, and, I believe, must be given up as one of those ingenious hypotheses which are too frequently entertained by speculative enquirers.

The teeth of the Snail are sharp and strong, and all the internal as well as external parts of the creature are admirably calculated by Nature for the mode of life to which it is destined.

But the most wonderful part of the history of the Snail, is its manner of breeding; and I must request my readers to summon all their philosophical faith to receive the surprising particulars.

If the observations of the most profound enquirers into the operations of Nature amongst the lower orders of animals may be depended upon, the amours of Snails are conducted in a manner very different from those of most other creatures, and are always preceded by a very extraordinary ceremonial, which has all the appearance of a regular combat.

When these animals are disposed to love, they signify their mutual wishes by launching several little darts at each other. These darts are of a very sharp form, and of a horny substance, and the animals are provided with
with a little quiver or reservoir of them during the breeding season: this internal quiver or repository of the darts is situated within the neck, and opens externally on the right side. Upon the discharge of the first dart, the wounded Snail immediately retaliates upon the aggressor, and discharges a similar one; the other again renews the battle, and is again in its turn wounded; and thus the darts of Cupid, so long and loudly celebrated by poets and lovers, and which are metaphorical with all the rest of the creation, are here completely realized. When the animals have continued for some time the combat just described, a reconciliation takes place, and they unite; after which they are solicitous to deposit their eggs in a place of safety. For this purpose they choose a moist, cool situation, generally under some little clod, or in some small sheltered cavity, in which they place them: they are perfectly round; about the size of very small peas, of a semi-transparent white colour, and of a soft sub stance: from these the young are hatched completely formed, and with their shells on their backs, and undergo no farther change than a gradual increase of size.

The depredations which these animals commit in gardens and orchards is very considerable, and it is remarkable that in defect of moist succulent food, as fruit and tender leaves, they will even attack substances of a hard and dry nature. I have known the common garden Snail here figured, when confined for one night under a glass of more than four inches in diameter, which was placed on a sheet of common blue paper, entirely devour the whole paper contained in the inclu-
ded space, to the very edge of the glass, so that a circular piece seemed almost as accurately taken out, as if marked by a pair of compasses.

From the experiments of Spallanzani and others, it appears that Snails are possessed of a very considerable degree of reproductive power. Spallanzani in particular, has found that the whole head of a Snail may be cut off, and yet in a certain space of time will be reproduced. This has been denied by some, but its truth is established by experiments conducted by the most careful and accurate observers.

It is necessary to add, that the Snails in the annexed plate, are represented at somewhat too great a distance from each other; this is a circumstance which admits of great variation, but in general the animals make a nearer approach before they dart their spicula; and in some particular instances they have been known to approach so near during this action, that the dart has been infused in the manner of a sword, in which case the animal that discharged it, withdraws again to some little distance, and seems to wait for a similar attack.
SPARUS? FORMOSUS.

Character Genericus.

Caput: Dentes incisores vel Laniarii robusti; Molares obtusiusculi, conferti. Labia duplicata.
Memb. branch. radiis 5. Opercula squamosa.
Corpus compressum. Linea lateralis pollice curvata. Pinnae pectorales rotundatae.

Character Specificus.

SPARUS RUBER, corporis maculis longitudinalibus variis, apiceque caudae, caeruleis.

Inter illos est pulcherrimus hic pisces eou in Systemate Naturae non descriptit Linnaeus. Secundum normam Linnaeanam ad genus Spari referendus est. Tantum sive est Spari et Labri characteres non satis accurate distinguendi, specieisque esse aliquid quae aequali pene jure ad alterutrum genus pertinere videantur. Testis fit species de qua jami agimus, quamque Dominus Ascanius in Opere suo Figures enluminees d'Histoire Naturelle du Nord dicto, speciem *Labri esse voluit. Huc nostro maxime affine esse videtur pisce, a Pennantio Striped Wrasse nominatus. Spari et Labri species variis

* Et fortasse reverso potius Labrus quam Sparus.
variis plerumque et vividis coloribus superbiunt; ut plurimum quoque, pisces sunt exteri et adventitii; at supradiictus ille quem descripsit Pennantius, interdum circa littora Britannica conspicitur. Unde delatum sit individuum hoc specimen in tabula depictum, et adhuc in Museo Leveriano conservatum, nobis non fatis liquet. Verisimile tamen est piscem esse Britannicum.

Figura nostra magnitudine naturali fere dimidio minorem illum repræsentat. Notatu dignum est nullam aut Labri aut Spari speciem in grandi illo Opera Ichthyologico Domini Bloch suisse depictam: quod sane magis mirandum, cum apud multos auctores horum pis- cium figuræ reperiantur quas ille commode fatis, unde et alias plurimas mutuatus est, in Ichthyologiam suam transflulisset.
THE BEAUTIFUL SPARUS.

GENERIC CHARACTER.

Teeth (generally) strong, and somewhat obtuse.
Lips double.
Membrane of the Gills furnished (generally) with 5 rays.
Pectoral Fins of a rounded form.

SPECIFIC CHARACTER.

RED SPARUS, with the various longitudinal marks on the body and the tip of the tail blue.

The beautiful fish here represented, is amongst the number of those which are not to be found in the Systema Naturæ of Linnaeus. The genus to which it belongs should, according to Linnaeus's own rules, be that of Sparus; but it must be confessed that the characters of the two Linnaean genera of Sparus and Labrus are not quite sufficiently distinguished, and several species may be observed which might with almost equal propriety be referred to either genus. As a proof of this, I cannot but observe, that in the Work of Ascanius, entitled Figures enluminees d'Histore Naturelle du Nord,
du Nord, this fish is given as a species of Labrus.*

It seems very nearly allied to the species which Mr. Pennant in his British Zoology has called the Striped Wrasse. The genera of Sparus and Labrus are both remarkable for the vivid colours which frequently adorn the species belonging to them. Most of them are natives of the extra-Britannic seas; but the striped Wrasse of Mr. Pennant, to which this fish is so nearly allied, has been sometimes caught on our own coasts. Where the individual specimen was taken, from which this figure was copied, and which is now in the Leverian Museum, I have not been able to learn; but there is reason for supposing it to be a British fish.

It is represented about half the size of the specimen itself.

It is singular that no species either of Sparus or Labrus has yet been figured in the superb Ichthyology of Dr. Bloch; especially as there are not wanting numerous figures of these fish in the works of several authors, from whom he might have copied them with the same ease that he has done those of a great many other fishes introduced in the course of his Work.

* And perhaps it is really rather a Labrus than a Sparus.
ANAS OCCIDUUA.

_________________________

CHARACTER GENERICUS.

Rostrum lamelloso-dentatum, convexum, obtusum. Linguæ ciliata, obtusa.

Ord. Anseres.

CHARACTER SPECIFICUS, &c.

ANAS albo-variata, fascia frontis occipitifque vi-
rente, pennis scapularibus falcato-dependen-
tibus, rostro-pedibusque nigris.

ANAS STELLERI.

Pall. Spic. 6. p. 35. t. 5.

Anatis perpulchra hæc species nomen habet a pa-
tria; Americæ quippe littora occidua præcipue in-
habitatur. In Kamtschatka etiam invenitur, ubi in ru-
pibis inacessis pullos suos educat. Gregatim con-
volant hæ Anates, nec unquam, ut perhibent, rivos 
intran, sed in littoribus maritimis tempest impetue

degunt.

A specimine eximio hujus avis in Museo Leveriano, 
conservato, figuram hanc nostram depingi curavi 

magnumur; ab eodem etiam specimine figuram suam in Zoología Arctica expressit Pennantius. Magnitudine Anatem 
Penelopen æquat.
THE
WESTERN DUCK.

Generic Character.

Bill broad and flattened; the edges marked with sharp lamellae.
Tongue broad and ciliated at the edges.

Specific Character, &c.

VARIEGATED DUCK, with a frontal and occipital band of green; the scapular feathers falcated downwards; the bill and legs black.

WESTERN DUCK.

Lath. Synops. 3. p. 532.

The beautiful species of Duck here represented, is named the Western Duck from its having been principally found on the western coasts of America; but it is likewise an inhabitant of Kamtchatka, where it breeds amongst inaccessible rocks. It is said to fly in flocks, and never to enter the mouths of rivers, but to confine itself to the sea-coasts. The elegant specimen in the Leverian Museum was the individual from which this figure was taken: Mr. Pennant’s figure of this bird in the Arctic Zoology was also drawn from the same specimen. The size of this species is nearly that of a Wigeon.
MACROPUS GIGANTEUS.

Character Genericus.

Dentes primores superiores 6, emarginati.
Inferiores 2, validissimi, acuminati, antror-sum porrecti.
Molares utrinque 4? remoti.
Pedes antici brevissimi; postici longissimi.
Folliculus abdominalis. (Fœminæ)

G. S.

Character Specificus, &c.

MACROPUS cauda sensim attenuata.

G. S.

YERBOA GIGANTEA.

Zimmerman. 526.

KANGUROO OPOSSUM.


Inter quadrupedes anomalum omnino et singulare est animal Kangaroo dictum. Genus a Pennantio disponitur nomine Didelphis seu Opossum, cui sanc maxime est affine. Affine tamen est et Murini generis certis speciebus, quas describit Linnaeus, quibus pedes posteriores insolutæ sunt longitudinis, pedesque anteriores insolutæ brevitatis. Inter illas est species valde singularis, communiter Jerboa nominata, quæ a Linnaeo...
Mus Jaculus dicitur, cui gestus situsque corporis sunt avis similis, pedibus utpote posterioribus tantum insflenti, anterioribus non nisi inter edendum, et terram pro cubili scalpendum utenti. Differt in hoc Kangaroo a Jerboa, quod dum pedibus tantum posterioribus quiescit, metatarsum adeo producitur habet ut primo intuitu tota velut tibia videatur terrae innitii; at Jerboa pedibus solis nititur. Kanguroo femina facultatem habet in abdomen, ut et vulgaris seu magna Didelphis. Utique maxillae infunt quatuor dentes molares, ab aliis dentibus remoti. Maxillae superiori infunt sex dentes incisores, validi, lati, paulum bifidi, seu medio leviter exciso. (emarginati.) In fronte maxillae inferioris sunt dentes duo prominentes, maximi, validissimi, acutissimi. Pedes anteriores in quinque digitos longos divisi sunt, unguibus acutis munitos. Pedum autem posteriorum forma est valde singularis; Primo intuitu tridaetily apparent, digitis nempe tribus instructis. Digitus medius validissimus, maximus, ungue itidem maximo et validissimo armatus. Digitii laterales utrinque minores sunt, unguibus proportionatis; quorum interior, si prope conspicitur, duplex videtur,five ex unguibus duobus valde vicinis constans. Pedes itaque posteriores revera sunt tetradaetily, seu digitis quatuor instructi. Haec observatio (qua, ut videtur primos spectatores effugit,) certe est accurata; posset etiam esse utilis; affinitatem enim maximam demonstrat inter hanc speciem et aliam a pictore Le Brun nomine Philandri descriptam, in qua unguis interior duplex plane conspicitur. In alia quoque Kanguroo specie Novam Hollandiam cum Kanguroo magno incotente
iente, cadem observatur pedis structura. In suo gene-
re Kanguroo est species facile maxima; utpote ovi adul-
tae magnitudine par. Caput collumque, cum parte
corporis superiore gracilia sunt; corporis autem pars
posterior permagna est et carnosa. Infolitae est agili-
tatis, saltibus altis adeo et longis progrediens, ut canes
Graii dicti facile ab illo in cursu superentur.

Novam Hollandiam incolit Kanguroo, ibi frequenter
conspectus. Victim praebet non infalubrem. Vegeta-
tabilibus folis vescitur.
THE GREAT KANGUROO.

Generic Character.

Six Cutting Teeth in the upper jaw, slightly emarginated.
Two very strong, sharpened Teeth in the lower jaw, pointing forwards.
Grinders on each side 4? distant from the other teeth.
An Abdominal Pouch. (in the female.)

G. S.

Specific Character, &c.

KANGUROO, with the tail gradually attenuated.

G. S.

KANGUROO OPUSSUM.


KANGUROO.

Cook's Voyage. 3. p. 577.

The Kangaroo is a very anomalous and extraordinary quadruped. The genus to which it bears the greatest affinity, is that of Didelphis or Opossum, in which genus
genus it is placed by Mr. Pennant; but it has also some affinity with those species of the Linnaean genus Mus, which are furnished with hind legs of a very remarkable length, and fore-legs as remarkably short. One of the most singular of these is the creature called the Jerboa, which is the Mus Jaculus of Linnaeus; an animal which has the general actions and attitudes of a bird; standing on its hind legs, and making use of the fore-legs only in feeding and in scratching or burrowing in the ground.

The Kanguroo, like the Jerboa, rests only on its hind legs, but the whole metatarus? having the appearance of the tibia, rests on the ground, whereas the Jerboa more frequently seems to stand on the feet alone. The female Kanguroo is furnished with a ventral pouch, in the same manner as the large or common Opossum. In each jaw there are 4?grinding teeth, or dentes molares; these are situated backwards, at a distance from the front-teeth. Of these, viz. the front or cutting teeth, (incisores,) there are 6 in the upper jaw, of a broad shape, and appear as if approaching to a bifid figure, or with a part cut out from the middle edge (emarginated). In the front of the lower jaw are two extremely large, sharp, and strong teeth, which incline forward. The fore feet are divided into five longish toes, with sharp claws; but the structure of the hind feet is extremely remarkable. At first view, the foot seems to be tridactylous, or to consist of three toes; the middle toe is most uncommonly strong and large, and furnished with a claw of proportional magnitude; the side toes are much smaller, and the claw
claw of the interior one, if closely examined, will be found to be double, or to consist of two claws very close to each other; so that in reality, the hind feet are tetradactylyous, or have four claws. This particular, (which seems to have escaped the first observers) is both curious and important, as it seems to shew how very nearly this animal is allied to another anomalous species of quadruped, which has long ago been described by Le Brun, the painter, under the name of the Philander, in which the same particularity (viz. the double inner claw) takes place; as likewise in a small species of Kangaroo, which, like the large species here figured, inhabits New Holland.

The tail of the Kangaroo is very long, and gradually tapers to the end.

The Kangaroo is by far the largest animal of its genus; being as large as full-grown sheep. Its head and neck, and whole upper parts are very thin and delicate; while the lower part of the body is very large and muscular. It is a creature of surprising agility, and springs forwards, by leaping to so uncommon a height, and to so great a distance, as to outstrip the fleetest pursuit; the swiftest greyhound being easily and soon distanced by this wonderful quadruped.

It is a native of New Holland, where it is found in plenty, and is esteemed a useful article of food.
SCARABÆUS HERCULES.

Character Genericus.

*Antennæ* clavatæ capitulo fissili.
*Tibiae* anticae saepius dentatae.


Character Specificus, &c.

SCARABÆUS scutellatus, thoracis cornu incurvo maximo: subtus barbato unidentato, capitis recurvato: supra multidentato.


Rösel. Inf. 2 Scarab. 1. tab. A. fig. 1. et Inf. 4. tab 5. fig. 3.

Edw. Av. tab. 334.

Quis, ait celeberrimus Buffonus, efficit ut de fummo mundi Creatore altius sublimiusque concipiamus? an ille qui foles et planetas potestate sua formantem, mundorumque circulos gubernantem depingit; an qui apum oeconomiam ordinantem, aut alas Scarabæi serio et sedulo plicantem? Talis equidem tanti viri sententia Historiae Naturalis minutiores partes investigantibus foret inimicissima, utpote vix hominis literati studio dignas,
dignas, aut saltem praē majoribus et nobilioribus Zoologiæ partibus fordidas, nisi quod et alii de hac re censuerint in eadem ponamus trutina; viri nempe non minus ingenio vixido et pollenti, quam virtute per omne ævum laudandi. Perillusftris Boylius breviter et nervosæ suam ita sententiam edidit; se non tam Naturæ majoribus horologiis, quam parvulis et minutis stupefacere; Deumque plane dixit esse maximum in minimis. Et profecto si elephas aut rhinocerotis molem giganteam miramur, acarum attoniti contemplamur necesse est, cui plura sunt membra, corpusque magis complicatum quam animalibus majoribus. Ad sumnum vero augetur nobis admiratio, innumera ita animalcula explorantibus, quae non nisi microscopii ope videnda sunt; quibus vel ipse acarus est quasi elephas. Immortalis Plinii sententia de his parvulis Naturæ operibus ex ipsius verbis constat. "In his tam parvis, tamque fere nullis, quae ratio! quanta vis! quam inextricabilis perfectione!"

stillantem forbeant; quo mox inebriata in terram decidunt, et facillime capiuntur. Huic tamen famæ, ut docetus observat Fabricius, fides non temere habenda est, quoniam, ut antea diximus, cornu, cui superficies inferior barbata est, hoc modo abrasum omnino dundaretur. Infectum hoc, ob molem insignem, optimum præbet exemplum characteris generici. Magnitudine multum variat. Dubitari etiam merito potest, annon minora aliqua specimina veluti speciem diversam descripsissent auctores; exempli gratia Scarabæum Alcidem Fabricii, adeo huic nostro affinem, at vix probe separtari queat, quamvis multo fit minor, cornuaque minus conspicue dentata gerat.
THE HERCULES BEETLE,

**Generic Character.**

*Antenna* divided at the tip or head into several lamellae.

*Tibiae,* (or second joints of the fore legs) generally toothed.

**Specific Character, &c.**

BEETLE, with the thoracic horn very large, bent downward, bearded beneath, furnished with a single tooth, and bifid at its extremity: the horn on the head bent upwards, and furnished on its upper part with several teeth.

*Rö fel.* vol. 2. plate A. fig. 1. and vol. 4. plate 5. fig. 3.

*Drury,* vol. 1. plate 30. fig. 1.

*Edwards,* vol. 7. plate 324.

Who says the celebrated Count De Buffon, gives us the grandest and, and most magnificent ideas of the Creator of the universe? He who represents him superintending the formation of suns and of planets, and
and guiding the revolutions of worlds, or he who discovers him busied in regulating the œconomy of an hive of bees, or deeply engaged in folding the wings of a beetle? Such an observation, from so elevated a character, might be capable of exciting a very wrong and unfavourable idea, with respect to the study of the smaller branches of Natural History; as if unworthy of any considerable share of attention, or at least of but slight importance, when compared with the higher orders of Zoology. But let us recollect the sentiments of other men, of the most comprehensive minds, the most brilliant abilities, and the most exalted piety and virtue.

The celebrated Mr. Boyle used to express himself on this subject in a somewhat singular phrase, viz. That for his own part, his wonder dwelt not so much on the clocks as the watches of Nature; and that the Creator appeared in reality to be *maximus in minimus*. If we are struck with admiration at the prodigious bulk of the elephant, or the rhinoceros, we are lost in astonishment at the contemplation of a mite, for in that animal there is a more complicated structure, and a greater variety of parts than in the larger animals; and how must this astonishment increase, when we contemplate by the help of glasses, those innumerable legions of animalcules, compared to which, a mite may itself be regarded as a kind of elephant.

The opinion of Pliny on the minuter parts of Nature is evident, from his own words. "In his tam parvis tamque sere nullis quæ ratio! quanta vis! quam inextricabilis perfection!".

The
The insect, however, which makes its appearance on
the present plate, is not amongst those of the smaller or-
der; but on the contrary, is one of the most gigantic
animals of the class to which it belongs. This curious
creature has long been known to the admirers of Na-
tural History, and has been figured by several authors.
It is a native of the warmer parts of America, and is re-
markable for the excessive length of the horn, which pro-
ceeds from its thorax, as well as for another horn which
proceeds from its head, and bends upwards, so as almost
to meet the thoracic one. The uppermost of these
horns, or processes, is most curiously coated on the in-
ner surface, with a fine hair or velvet-like substance.

It has been said that these insects have a custom of
taking hold of the slender branches of the Mammæa
Americana, and swinging themselves round with such
rapidity, as to wound, by this circular motion, the
branch on which they fasten, in order to be enabled to
suck the juice distilling from the tree; by which they
are soon inebriated, so as to fall in great numbers on
the ground, and to be easily taken. But this account,
as the learned Fabricius has well observed, seems not
very probable; since the thoracic horn being bearded
on its lower surface, would undoubtedly be made bare
by this operation. This Insect, from the remarkable
size of all its parts, affords an admirable example of
the characters of the genus to which it belongs.

It varies much in size, and it may even be much
doubted whether some of the smaller specimens have
not been regarded as distinct species by authors: such,
for instance, is the Scarabæus Alcides of Fabricius,
which
which seems so extremely nearly allied to the Hercules, as scarce to admit of separation, notwithstanding its size, which is hardly more than half that of the former; and the horns not furnished with such remarkable denticulations as in the Hercules.
PSITTACUS PULLARIUS.

Character Genericus.

Rostrum aduncum: mandibula superiore mobili, cera inructa.
Nares in rostri bafi.
Lingua carnosa, obtusa, integra.
Pedes fcanforii.


Character Specificus.

PSITTACUS brachyurus viridis, fronte rubra, cauda fulva fascia nigra, orbitis cinereis.


PSITTACUS GUINEENSIS.

Edw. Av. t. 237. f. 1.

Lath. Synops. 1. p. 309.

In caveis inclusam hanc aviculam plerique tam frequenter conspexerunt, ut hoc ipsum ab admiratione detrahat quam aliter sibi vindicaret excellens pulchritudo. Historiae naturalis cultoribus tam probe cognita est hæc species, ut illam peculiariter describere non sit necesse: fatis fit dieere speciem esse pulcherri- mam; moresque ejus suaves et manuetos formæ tam eximiae
eximiae bene respondere. Africæ est indigena, et in Guinea frequentissima est. In India etiam Orientali inventur. Nomen ejus Anglicanum commune est *Guinea-Sparrow.*
THE GUINEA PARRAKEET.

 Generic Character.

 Bill hooked. Upper mandible moveable.
 Nostrils round, placed in the base of the bill.
 Tongue fleshy, broad, blunt at the end.
 Legs short. Toes formed for climbing, viz. two backward and two forward.

 Linnaeus and Pennant.

 Specific Character, &c.

 SHORT-TAILED GREEN PARROT, with red front; tail fulvous with a black bar; orbits of the eyes grey.

 Lin.

 RED-HEADED GUINEA PARRAKEET.

 Latham, fol. 1. p. 309.

 This beautiful little bird is so often seen in cages, that the circumstance of its not being a rare species seems in some degree to lessen the admiration due to its uncommon elegance. As it is so well known to Naturalists, it is unnecessary to say more than that it is one of the most brilliant of its genus, and that the beauty of its appearance is equalled by the gentleness
of its manners. It is an African bird, and abounds in Guinea. It is also found in the East Indies. In England this bird is generally called by the name of the Guinea-Sparrow.
MANIS TETRADAECTYLA.

Character Genericus.

Dentes nulli.
Lingua teres, extensilis.
Os angustatum in rostrum.
Corpus squamis tectum.


Character Specificus, &c.

MANIS pedibus tetradaectylis.


LACERTUS squamosus peregrinus.

Cluf. Exot. 374.

Tam prope accedit hæc Manis species ad similitudinem Manis Pentadaectylæ, in priore numero hujus operis depictæ, ut a quibusdam physicis varietas potius quam species distincta cenfetur. Linnaeus etiam ipse, cum characterem illi specificum statuerit, addit, "præcedenti nimis aëninis." Caudæ tamen longitudo, quæ in omnibus speciminibus a meipsò observatis, illam Manis Pentadaectylæ longe superat, squamaeque magis oblongæ, acuminatae etiam et ftriatae, feu fulcatae, nec non corporis forma gracilior, cum aliis differentiis, quæ accurate perpendenti physico patebunt, clare demonstrant.
monstrant hanc speciem alteram omnino et diversam esse. Quod ad habitus vitæque mores attinet, ea omnia in historia alterius speciei antea descriptæ numerantur. Nihil igitur reſtat, quin ut illam ipsam descriptionem adeat lector.
THE
FOUR-TOED MANIS.

Generic Character.

No Teeth.
Tongue cylindric and extensile.
Mouth narrowed into a snout.
Body covered with scales.

Specific Character, &c.

MANIS with tetradaectylous (or four-toed) feet.

Lin.

LONG-TAILED MANIS.


This species of Manis makes so very near an approach to the Manis Pentadactyla, figured in a former number of this work, that it has been regarded by some Naturalists as a variety rather than a distinct species; and Linnaeus in his Systema Naturœ, after giving its specific character, observes that it is almost too nearly allied to the other to be regarded as distinct. The length of the tail however, which in all the specimens I have ever observed, very greatly exceeds the proportion of the same part in the former species, as well as the more oblong and even acuminate form of the furrowed or striated scales, together with a greater degree of slenderness in the
the body, and some other particulars which an attentive survey discovers, seem clearly to prove a real specific difference. In point of general habits and mode of life nothing need be added to what has been already said of the other species, or M. Pentadactyla, to which the reader is therefore referred for its history.
FULGORA LANTERNARIA.

.signup

CHARACTER GENERICUS.

*Caput* fronte produeta, inani.  
*Antennae* infra oculos: articulis 2; exterio re globofo majore.  
*Rostrum* inflexum.  
*Pedes* gressorii.  

_Lin. Sysl. Nat. p. 703._

CHARACTER SPECIFICUS, &c.

FULGORA fronte ovali recta, alis lividis; posticis ocellatis.  

_Lin. Sysl. Nat. p. 703._

LANTERNARIA.  

_Mer. Sur. t. 49._

_Röfel. Inf. 2. gryll. t. 28, 29._  
_Fabr. Spec. Inf. vol. 2. p. 313._

Vix aliud in Insectis videtur mirabilius luce illa phosphorea, quam certæ species emittunt. Inter in-
fecta Europæa, Lampyrides, (quæ ad Coleoptera Linnaei referuntur) maxime hac qualitate pollent. In America
est species Elateris, cui multa ineft vis lucem in tene-
bris spargendi. Scolopendra etiam vulgaris Europæa,
(quæ Scolopendra electrica Linnaei) manifeste nocte
lucet,
lucet, præsertim si aliquo modo fit irritata aut compressa. Præ cæteris tamen infestis eminet species in tabula depicta, quæ communiter Lanternaria Peruviana dicitur: lucem enim adeo vividam spargit, ut viatores noctu ambulantes iter suum commode peragere possint, ope unius vel duorum horum animalium, baculo alligatorum, gestatorumque more facis. Insectum hoc ad ordinem naturalem pertinet insectorum quatuor alas habentium, quarum exteriores sunt magis coriaceæ seu densæ in parte superiore quam inferiore. Hujus ordinis insecta Hemiptera Linnaei constituant, inter quæ major pars rostrum tubulatum sub pectore gerunt, cujus ope fugendo se nutritur. Hinc patet Fulgoram et Cicadam esse valde affines. Fulgora frequens in America calidiori reperitur, et a Domina Merian in historia sua insectorum Surinamensium nec non ab aliis Natura indagatoribus descripta est. Non injucunde narrat Merian metum sibi ingentem ineflis flammae corruisationes ab insectis hisce exortas, cum adhuc facultatis quam habent lucem in tenebris emittendi ignara est. "Cum aliquando (inquit illa) Lanternarios magna copia mihi attulissent Indi, scatulae coësdem majori lignæ inclusi, illos noctu lucere adhuc infcis; verum de nocte infolito strepitu expergefacta, et perterrita, et leço profiliis, lumen ascendere jussi, quis domi meæ infestus esset strepitus ignara. Tum vero e scatula stridorem profectum illico nobis patuit; illum itaque cum'animi quadam perturbatione aperuimus, sed adapertam magis adhuc pavoentes in terram subito dejecimus, quod inter aperiendum inde velut ignea erumperet flamma, toties refulgens quoties novum evolaret
evolaret insectum: quo tandem animadverso, ad nos redeuntes, iterum congregavimus animalcula, splendorem in ipsis plurimum demiratae." Ope etiam unius infecit, ut affirmat Merian commode aliquis noctu legere poteft.

Non abs re sit addere quod quamvis Domina Merian figuras horum animalium pulchre et accurate depingi curaverit, tamen transformationem ipsius infecit a larva ad integrum flatum describere cuncta, figuram, ut videatur, sietam introduxit, nempe cicadæ speciem (quæ Cicada Tibicen Linnæi) cum capite Fulgoræ.

Lux phosphorea a Fulgora dimanans, a capite concavo seu velut inflato procedit: nulla enim alia pars phosphorea est.
THE GREAT LANTHORN-FLY, OR FIRE-FLY.

Generic Character.

Head hollow, inflated, and produced forwards. Antennae below the eyes, consisting of 2 joints, the exterior larger and globose. Beak inflected. Feet formed for walking.

Specific Character, &c.

FULGORA with large oval head; variegated wings; the lower pair ocellated.

LANTERNARIA. Merian. Sur. t. 49. Rösel. vol. 2. t. 28, 29.

Few circumstances are more remarkable amongst insects than the phosphoric light with which some particular species abound. Amongst the European insects this quality is most conspicuous in the Glow-Worms, which are of the Linnaean genus Lampyris, and belong to the Coleopterous tribe. In America a large species of Elater, or Springing-Beetle is possessed of this faculty in
in a very high degree; the common small Scolopendra of Europe, and which is well known in our own country, is pretty strongly phosphoric likewise, especially if pressed or irritated; but of all insects that which is here represented, and which is generally called the Lanthorn-Fly of Peru, possesses this lucid quality in the most eminent degree, and affords a light so vivid, that travellers walking by night are said to be enabled to pursue their journey with sufficient certainty by one or two of these insects tied to a stick and carried in the manner of a torch. The insect belongs to the natural order of Hemipterous insects, or such as are furnished with four wings, of which the exterior pair on the upper part are of a stronger or more coriaceous nature than on the lower. The division in this tribe to which it strictly belongs, is that containing the rostrated insects, or such as have a tube or instrument of suction lying flat, beneath the breast. It is therefore extremely nearly allied to the genus Cicada. It is common in many parts of South America, and amongst other writers is described by the celebrated Madam Merian in her history of the Surinam insects. She gives an entertaining account of the alarm into which she was thrown by the flashing which proceeded from them in the dark, before she had been apprized of their shining nature.

"The Indians once brought me (says she) before I knew that they shone by night, a number of these Lanthorn-Flies, which I shut up in a large wooden box. In the night they made such a noise that I awoke in a fright, and ordered a light to be brought, not being able to guess from whence the noise proceeded:
as soon as we found that it came from the box, we opened it, but were alarmed still much more, and let it fall to the ground in a fright at seeing a flame of fire come out of it; and as many animals as came out, so many flames of fire appeared. When we found this to be the case, we recovered from our fright, and again collected the insects, much admiring their splendid appearance." She adds, that the light of one of these insects is so vivid that a person may see to read a newspaper by it.

It may not be improper to observe, that though Madam Merian has given good figures of the Fire-Fly, yet, by way of explaining the change from its supposed larva into the complete insect, she seems to have introduced an imaginary figure, representing the Cicada Tibicen with the head of a Fulgora. The light emitted by the Fire-Fly proceeds entirely from the hollow part, or Lantern of the head; no other part of the animal being luminous.
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