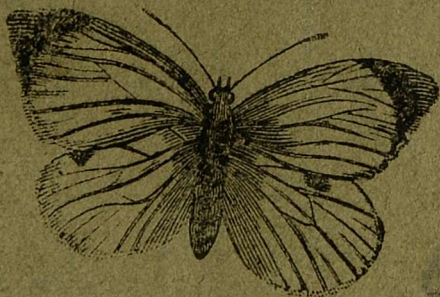
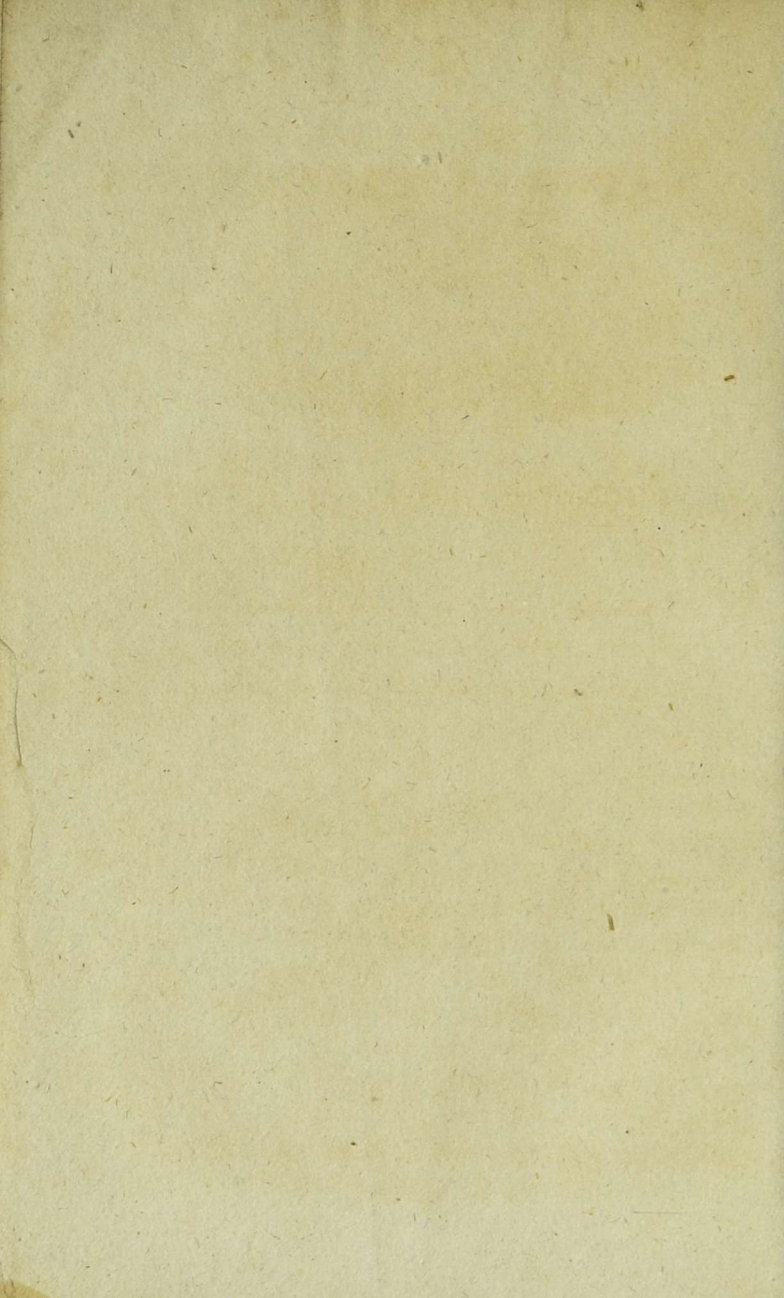


A
NATURAL HISTORY
OF
REPTILES,
SERPENTS, AND INSECTS.

THIRTY-FOUR ENGRAVINGS ON WOOD.



ALNWICK:
PRINTED AND SOLD WHOLESALE AND RETAIL,
BY W. DAVISON.



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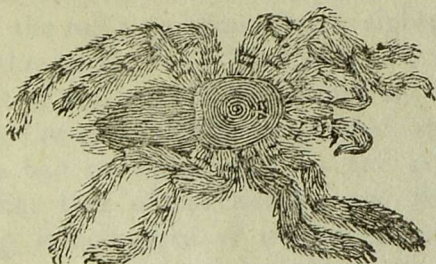
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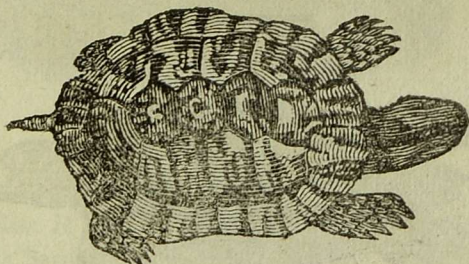
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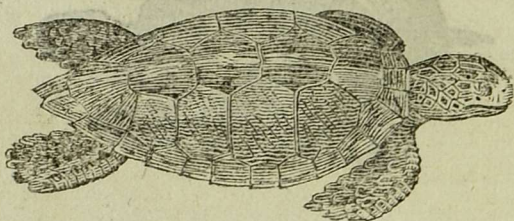


THE LAND TORTOISE.

THE land tortoise is found from one to five feet in length, from the end of the snout to the extremity of the tail; and from five to eighteen inches across the back. The head is small, somewhat like that of the serpent kind; and may be either protruded or concealed under the shell at pleasure: the eye has no upper lid; the tail is long and scaly, like that of the lizard; and the exterior covering is composed of several pieces of shell, united in the firmest and most compact manner.

Though this animal is of the most pacific disposition, it is admirably formed for defence, and seems to be almost endowed with immortality. Scarcely any violence can deprive it of life. It

will retain the vital principle after it is deprived of the brain, and even of the head. It is remarkable for its longevity. During winter, the tortoise lies torpid in some cavern three or four feet under ground, and from this state it does not awake till the return of the genial heat of spring.



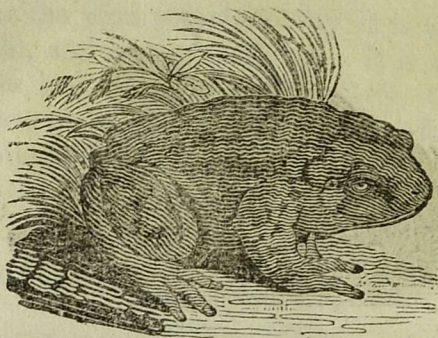
THE TURTLE, OR SEA TORTOISE.

THE turtle, or sea tortoise, is of various species, most of which are highly celebrated in the annals of epicurism. The green turtle, in particular, forms an important article of commerce, and our West-India ships are generally supplied with conveniences for importing it alive. A common-sized green turtle will weigh two hundred weight, and some have been caught that exceeded eight hundred. The turtle seldom quits the sea, except to deposit its eggs in the sand; which are hatched, in about twenty-five days, by the heat of the sun. The young, as soon as they burst from the sand, guided by instinct, run toward the sea.



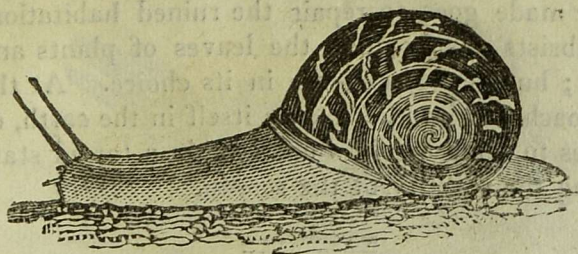
THE FROG.

THE common frog is known throughout Europe. In colour it varies considerably, but its general tinge is brown, variegated on the upper parts of the body and limbs with irregular blackish spots. Its spring, or power of leaping, compared with its bulk, is remarkably great; and it is by far the most expert swimmer of all quadrupeds. While in a tadpole state, it is wholly an inhabitant of the water, and it is also produced in that element: but, as soon as the young animal is transformed into its mature state, it immediately takes to the land. A single female is capable of producing a thousand eggs at a time. They subsist on insects, and are themselves devoured by a variety of other animals. During the frosts of winter, they lie in a state of torpidity, either deeply plunged in the soft mud at the bottom of stagnant waters, or in the hollows beneath their banks, till they are awakened from their slumber by the return of spring.



THE TOAD.

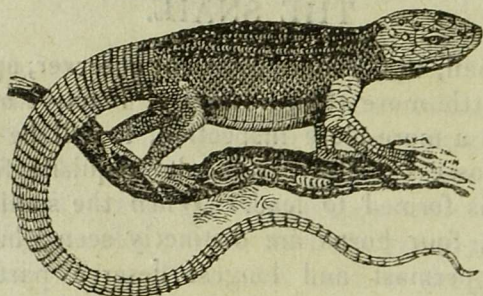
THE toad bears a general resemblance to the frog; but is much more unsightly in its appearance, and seldom can be viewed without disgust. Its natural deformity, and the abhorrence with which mankind generally regard it, have given rise to many fictitious qualities that confirm the prejudices conceived against it. Its very look has been supposed fatal; of its entrails fancied poisonous potions have been composed; and it has been deemed a principal ingredient in administering the incantations of nocturnal hags. But all these fables have been long exploded; and, if it cannot be allowed to be agreeable, it has at least been proved to be innoxious. Like the frog it is amphibious, and lives on worms and insects, which it seizes by darting out its tongue. It crawls about chiefly toward the close of day, in moist weather. During the severity of winter, like all the frog kind, it becomes torpid.



THE SNAIL.

THE snail, to the mere transient observer, appears to be little more than a lump of inactive matter, but, on a more close inspection, it will be found to be possessed of every faculty requisite for the life it is formed to lead. When the snail is in motion, four horns are distinctly seen; but the two uppermost and longest deserve particular consideration, both on account of the various motions with which they are endued, and because they have their eyes fixed at the extreme ends of them. This animal can direct its eyes by a regular motion out of the body; and sometimes it hides them, by a very swift contraction in the belly. Eighteen days after coition, the snails produce their eggs, and hide them in the earth with the greatest solicitude and industry. But some are not only viviparous, but bring forth their young with the shell upon their backs. The snail is possessed not only of a power of retreating into its shell, but of mending it when broken.

The same substance of which the shell is originally made goes to repair the ruined habitation. It subsists chiefly upon the leaves of plants and trees; but is very delicate in its choice. At the approach of winter, it buries itself in the earth, or retires to some hole, to continue in a torpid state during the severity of the season.



THE GREEN LIZARD.

THE colours of this species are subject to variety, becoming pale at certain seasons of the year, and more particularly after the death of the animal. The upper parts of the body are of a beautiful green, more or less variegated with yellow, grey, brown, and even sometimes with red. In warm regions it grows to a larger size than in more temperate countries, being sometimes found thirty inches in length. The inhabitants of Africa eat the flesh of this animal.



THE CROCODILE.

THIS formidable animal frequently exceeds twenty feet in length, and five feet in circumference. The general colour is a dark brown on the upper part, and a whitish citron below ; with large spots of both colours on the sides. The skin is defended by a suit of armour, almost impenetrable to a musket-ball. The female deposits her eggs in the sand, and leaves them to be hatched by the heat of the sun.

It abounds in the Nile, the Niger, the Ganges, and other great rivers of Asia, Africa, and America. In upper Egypt it is extremely destructive ; lying in wait near the brink of the Nile for animals that come to drink ; and sparing neither man nor the fiercest quadrupeds that come within its reach. It seizes the victim with a spring ; and draws it into the water, where it devours it at leisure. The natives of some countries, however, pursue the crocodile for the sake of its flesh, of which they are extremely fond ; nor are its eggs reckoned

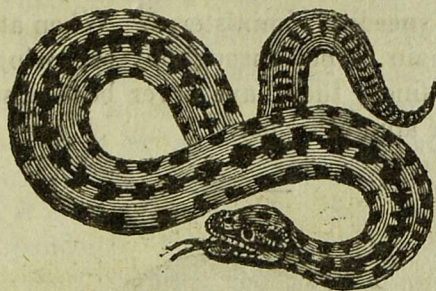
a less delicious treat by some palates. This helps to diminish their numbers ; but all the arts of annoyance which man can exercise would be ineffectual, did not every beast and bird of prey, particularly the ichneumon and the ibis, conspire to devour the eggs and young with unremitting assiduity. Of this family there are several varieties ; as the open-bellied crocodile ; the alligator, or American crocodile ; and the cayman, or Antilles crocodile. They all agree, however, in strength, size, and ferocity ; and are justly the object of terror in every country where they are found.



THE CAMELEON.

THIS animal has a crooked cylindrical tail ; and, including this appendage, measures about a foot in length. Its thickness varies at different seasons, as it possesses the faculty of contracting or expanding itself at pleasure. The skin is very

unequal, but soft. When the creature is at rest, the eminences on its surface appear of a bluish grey, and the spaces between them of a pale red and yellow: but viewed in different lights, it assumes every tint of colouring, and no two individuals can agree as to the exact shades it presents to the eye. It is found in all the warm countries of Europe, Asia, and America.

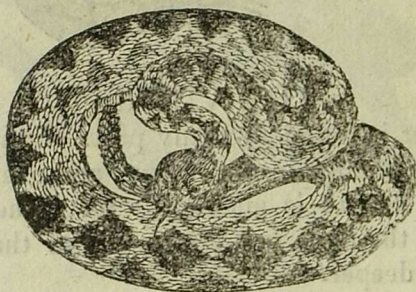


THE VIPER.

THE viper is found in many parts of this island, but abounds most in dry, stony, and chalky soils. Its usual length is about two feet: the ground colour of the male is a dirty yellow: that of the female is deeper.

This animal is slower in its motions than the snake, and brings forth its young alive. It has often been asserted that the young of the viper, when terrified, will run down the throat of the parent for shelter; and hence some have imagined

that she is so unnatural as to devour her own young. But this deserves no credit, as these animals live on frogs, lizards, and young birds, which they swallow entire, though the morsel is frequently three times as thick as their own body. The viper is capable of supporting abstinence for a considerable length of time. The bite is attended with sudden inflammation and swelling, but its ill effects may be obviated by a free use of olive-oil applied to the wound, as well as taken inwardly. There are various other specifics, which seldom fail when speedily administered. When at liberty, they remain torpid throughout the winter; yet when confined, they have never been observed to take their annual repose.



THE RATTLE-SNAKE.

THE rattle-snake is a native of the American continent. It is sometimes found as thick as a

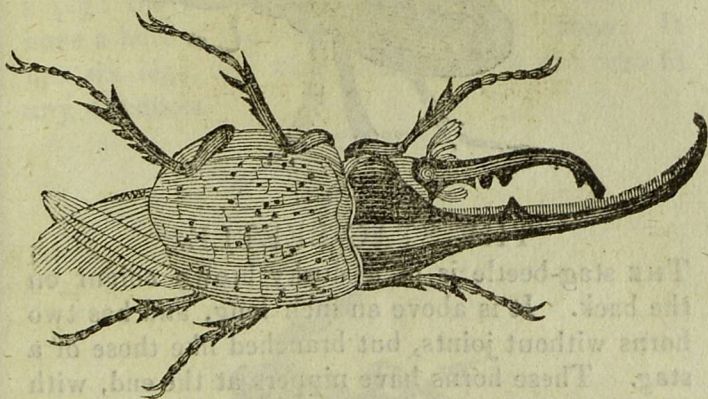
man's leg, and six feet long. In most particulars it resembles the viper. Like that animal, it has a large head and a small neck, and its colours are nearly the same; but it differs in having a large pendulous scale over each eye, and a nictitating membrane; besides that singular mark of distinction, the rattle in the tail. With this instrument it makes a very loud noise; and it appears to have been assigned by Providence for the purpose of warning other animals of its approach, and thereby enabling them to avoid the danger. This rattle is composed of several thin, hard, hollow bones, linked together, and which sound on the least motion of the animal. It has been supposed that it acquires an additional bone every year, from which circumstance its age may be indicated; at least, it is certain that the young are destitute of this appendage. No sooner is this alarming rattle heard than the other classes of animals testify their fear by speedy flight. The almost inevitable death that ensues from the bite of this terrible animal creates a kind of solitude around its haunts. It is, however, very inactive and indolent, unless when provoked; and, conscious of its superior powers of annoyance, is seldom the aggressor, except when impelled by hunger to attack its natural prey. Rattle-snakes are viviparous, producing their young, generally about twelve in number, in the month of June, and by September these acquire the length of twelve inches.



THE BOA, OR OX-SERPENT.

THERE are several species of this enormous serpent. They are all terrible for their magnitude and bite, but destitute of venom. Their length often exceeds thirty feet; the colour is a dusky white, sprinkled with spots of various colours. The boa frequents caves and thick forests, where it conceals itself till its prey comes within its reach. When it seizes large animals, it perfectly twists itself round them, so as to involve their body and impede their motions; while, by the vast force of its circular muscles, it breaks all their bones. The boa has been observed with the horns of a stag sticking out of its mouth; these being too large and complicated for it to swallow, as well as too hard to digest. For some days after it has swallowed a stag or a tiger, it is fixed to the spot, being disabled to move by repletion; and then the natives easily kill it. When exasperated it makes a loud hissing noise. It is found in the East Indies and some parts of South America.

HISTORY OF INSECTS.



THE ELEPHANT BEETLE.

THE elephant beetle is the largest of this kind hitherto known, and is found in South America. It is of a black colour, and the whole body is covered with a very hard shell full as thick and as strong as that of a small crab. Its length from the hinder part to the eyes is almost four inches, and from the same part to the end of the proboscis or trunk, four inches and three-quarters: the transverse diameter of the body is two inches and a quarter, and the breadth of each elytron or case for the wings is an inch and three-tenths: the proboscis is an inch and a quarter long, and turns upwards, making a crooked line terminating in two horns.



THE STAG-BEETLE.

THE stag-beetle is of a dusky brown colour on the back. It is above an inch long, and has two horns without joints, but branched like those of a stag. These horns have nippers at the end, with which the animal can pinch or lay hold of any thing. It has six feet, of which the foremost pair are larger than the rest. They are common in Kent and Sussex.



THE GOAT-CHAFER.

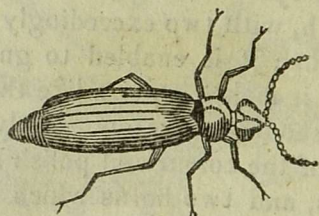
THE goat-chaffer, or capricorn beetle, is about the size and colour of the stag-beetle. The head is

broadish, the eyes are large, and it has a forked gaping mouth, with two exceedingly hard crooked teeth by which it is enabled to gnaw wood, at which times it makes a noise like the grunting of a pig: the shoulders are apparently carved, and have a haft of the colour and polish of ebony. It has six legs, and two horns which it can turn in any direction.



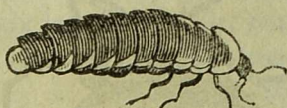
THE LARGER CAPRICORN BEETLE.

THE larger capricorn green beetle is a very large and beautiful insect. It is of a glossy blue-green colour, with a cast of shining golden yellow. It is found among old willow trees, and smells like musk.



THE CANTHARIS.

THE cantharis is of the beetle kind, from whence come cantharides, well known in the shops by the name of Spanish flies, and for their use in blisters. They have feelers like bristles, flexible cases to the wings, a breast pretty plain, and the sides of the belly wrinkled. Cantharides differ from each other in their size, shape, and colour; those used in the shops also do the same. The largest in these parts are about an inch long, and as much in circumference, but others are not above three quarters of an inch. Some are of a pure azure colour, others of a pure gold, and others have a mixture of pure gold and azure colours; but they are all very brilliant, and extremely beautiful. These insects, as is well known, are of the greatest benefit to mankind, making a part in many medicines conducive to human preservation. They are chiefly natives of Spain, Italy, and Portugal; but they are also to be met with about Paris in the summer time, upon the leaves of the ash and poplar, and also among wheat, and in meadows.



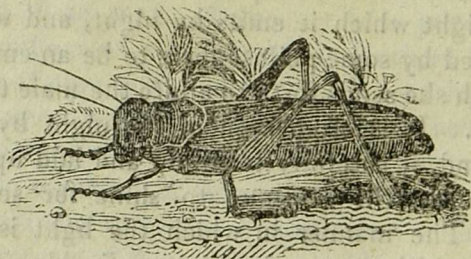
THE GLOW-WORM.

No two insects can differ more from each other than the male and female of this species. The male is in every respect a beetle, having cases to its wings, and rising in the air at pleasure; the female, on the contrary, has none, but is entirely a creeping insect, and is obliged to wait the approaches of her capricious companion. The body of the female has eleven joints, with a shield breast-plate, the shape of which is oval; the head is placed over this, and is very small, and the three last joints of her body are of a yellowish colour. But what distinguishes it from all other animals, at least in this part of the world, is the shining light which it emits by night, and which is supposed by some philosophers to be an emanation which she sends forth to allure the male to her company. It is often seen in the night by travellers, and, if carefully taken up and laid upon a grassy turf, will continue to shine for several nights. The manner in which the light is produced has hitherto continued inexplicable. Probably the animal is supplied with electrical powers, which, by rubbing the joints of its body against each other, supply a stream of light.



THE OIL-BEETLE.

THE oil-beetle has a soft body of a dusky blue colour, with a shining blackish cast. On the shoulders there are two wings, which it makes use of much like ostriches, to help its running, and not for flying. Upon the slightest motion or touch, they shed a sort of an oil, not unlike liquid honey. It appears in the beginning of June.



THE GRASSHOPPER.

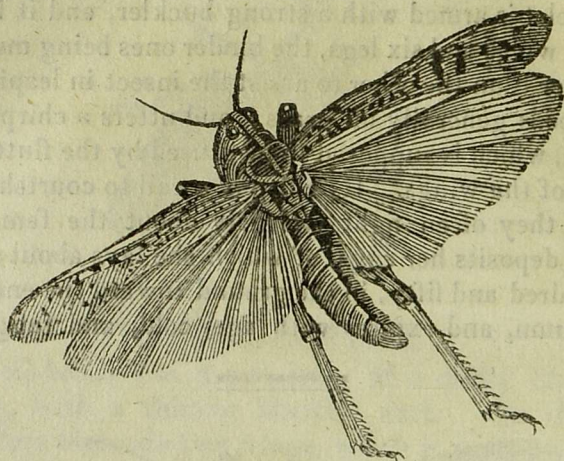
THE grasshopper is of a gay green colour, the head somewhat resembling that of a horse; the

corselet is armed with a strong buckler, and it has four wings and six legs, the hinder ones being much longer than the other to assist the insect in leaping. It feeds generally on grass; and utters a chirping note, which is supposed to be caused by the fluttering of the wings. Its chirp is a call to courtship; and they often fight violently about the female. She deposits her eggs, of which she lays about one hundred and fifty, in the ground toward the end of autumn, and expires with age, cold, and fatigue.



THE MOLE CRICKET.

THE mole cricket is very particularly formed. The two fore feet, which are placed very near the head, have the shape of wheels, and, resembling those of the mole, are contrived to help the insect in burrowing under ground. It is very obnoxious to gardeners, as it feeds upon the roots of plants.



THE GREAT BROWN LOCUST.

THIS voracious insect is about three inches long ; and has two horns or feelers an inch in length. The devastations occasioned by locusts are well known. When these insects take the field, they appear to be under the conduct of a leader. At a distance they resemble a black cloud ; which, as it approaches, gathers on the horizon, and threatens to obscure the light of the sun. It often happens that the husbandman perceives this impending storm pass away, and the whole swarm proceed on their course to devour the labours of some devoted country. Unfortunate indeed is that district where these multitudes alight ! In a few minutes they desolate the promise of the year, and often bring on all the horrors of famine. The inhabitants of some countries, however, convert

this plague into a real benefit: for, in many kingdoms of the east, and in some parts of Africa, locusts are pursued as an article of wholesome and not disagreeable food, when properly dressed. They are well known in Egypt and Barbary. The holes these animals make to deposit their eggs are four feet deep. The eggs are about eighty in number, of the size of caraway comfits, and bundled up together in clusters.



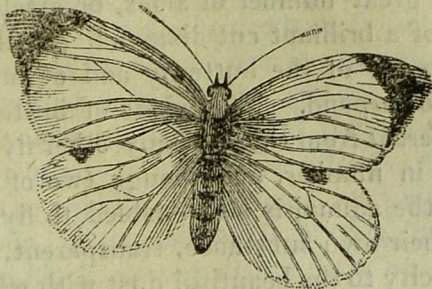
THE RAPHDIA.

THE raphidia, or sharp-tailed fly, has a horny flattish head, and a bristly sharp tail; the head is black, smooth, and narrow on the hinder part; the breast is narrow, rounded, and black; the feelers are slender, white, and consist of a great number of joints; the body is slender, oblong, and of a brown colour, variegated with transverse white lines; the wings are thin and membranaceous, being reticulated, and having each an oblong brown spot toward the edge. From the hinder part of the body of the female there grows a long, sharp, slender, and bended weapon. In July it is common in the meadows near waters.



THE DRAGON-FLY.

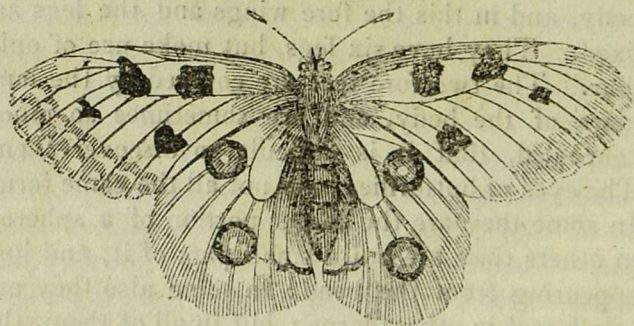
OF all the flies by which the face of Nature is diversified and adorned, the dragon-flies are the most various and beautiful; their colours being white, green, blue, crimson, and some have such a variety of vivid tints as may vie with the colours of the rainbow. These insects are produced from eggs, which the female deposits in the water. The caterpillars that issue from them feed on water insects, increasing in voracity and boldness as they acquire strength. These beautiful flies, while they appear so idly and so innocently employed, are the greatest tyrants of the insect tribe; their courage and strength are such, that there is none of whatever magnitude which they will not attack and devour.



THE COMMON WHITE BUTTERFLY.

BUTTERFLIES may be said to consist of three parts; the head, the corselet, and the body. The body is the hinder part, and is composed of rings, which are generally concealed under long hairs with which that part of the animal is clothed. The corselet is more solid than the rest of the body, and in this the fore wings and the legs are fixed. They have six legs, but make use of only four. The two fore feet are covered by the long hairs of the body, and are sometimes so much concealed, that it is difficult to discover them. The eyes of butterflies have not all the same form. In some they are the larger portion of a sphere; in others they are but a small part of it, and just appearing from the head: in some also they are small, and in others large; but in all of them, the outer coat has a lustre, in which may be discovered all the various colours in the rainbow. It has, likewise, the appearance of a multiplying-glass,

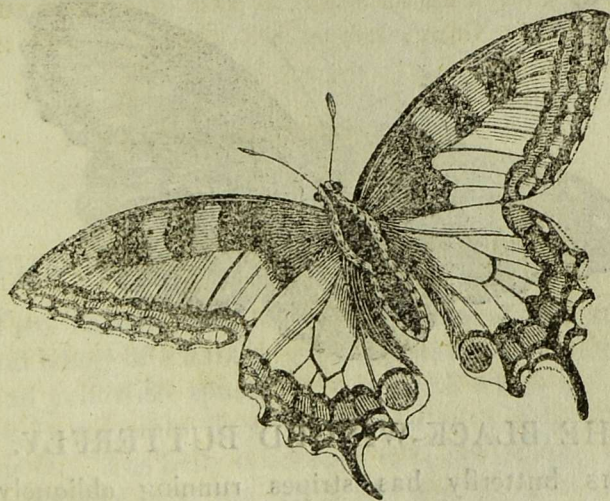
having a great number of sides, or facets, in the manner of a brilliant cut diamond. In this particular the eye of the butterfly and of most other insects correspond. The wings of butterflies are very different from those of any other fly. They are four in number, and though two of them be cut off, the animal is still enabled to fly. They are, in their own substance, transparent, but owe their opacity to the beautiful dust with which they are covered. Some delight in the sunshine, and others seem to avoid it, for which reason they are divided into two sorts, the diurnal and the nocturnal. The former are called butterflies and the latter moths.



THE PEACOCK BUTTERFLY.

THIS butterfly is distinguished by four circular spots resembling those of the peacock. The up-

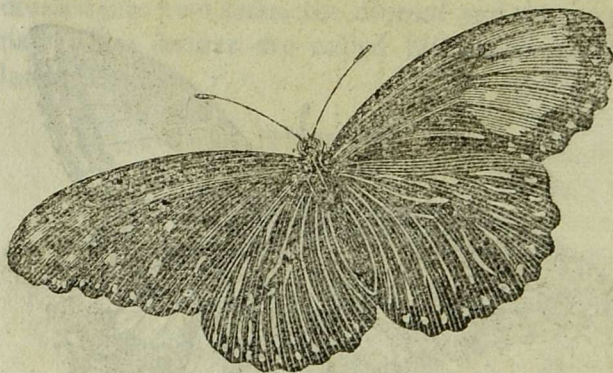
per wings have on their superior edge two black oblong spots; and at their extremity is found the eye, which is large, reddish in the middle, surrounded with a yellow circle, and accompanied by a small portion of blue toward the exterior side. The inferior wings have each a large eye of dark blue in the middle, surrounded by a circle of an ash colour. The caterpillar of this butterfly is of a deep black, dotted with a little white.



THE GREAT BUTTERFLY.

This butterfly is about eight inches wide when the wings are extended, and four inches long from

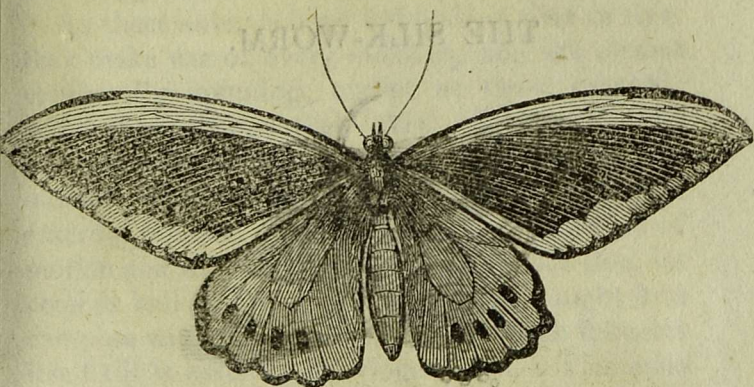
the head to the horns, which are remarkably situated at the end of the wings. It is variegated with yellow and black. The darkest places in the female are black, and all the rest are yellow, except the globous extremities of the internal wings, which are of a dusky colour. The eyes are of a gold colour, and remarkably large and roundish.



THE BLACK-WINGED BUTTERFLY.

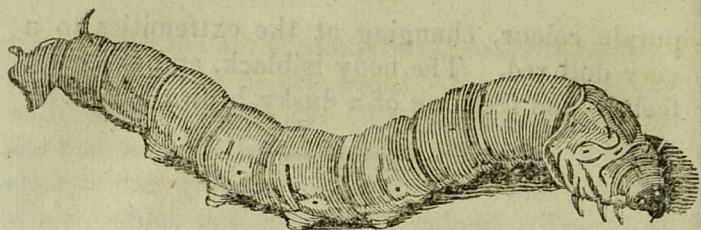
THIS butterfly has stripes running obliquely through the middle to the edge of the wing. Their extremities have a border marked with milk-white spots, and the very edges are a little jagged. The lower wings are of a dusky brown on the outside; but within they are of a blackish

purple colour, changing at the extremities to a very dull red. The body is black, and the eyes, feelers, and feet, are of a dusky brown colour.

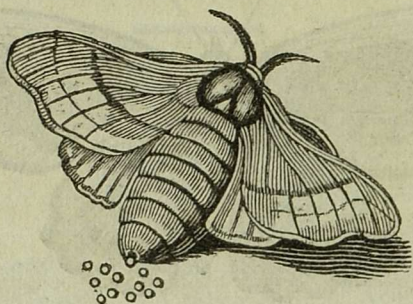


THE REDDISH-BACKED BUTTERFLY.

THIS butterfly has the upper surface of the external wings of a darkish green, marked with whitish and yellowish spaces: the internal wings are entirely red, only they are marked with eight black spots. The belly is adorned with six shining yellow scales, and the tail is like a grain of barley. The shoulders are hairy, and have a spot like a half-moon on the lower part; the eyes are reddish with a silver-coloured pupil.



THE SILK-WORM.



THE SILK-WORM MOTH.

THE silk-worm is a large caterpillar of a whitish colour, with twelve feet, and produces a butterfly of the moth kind. It is found in a native state on mulberry-trees in China, and some other of the eastern countries, from whence it was originally introduced into Europe in the reign of the emperor Justinian. It is, however, at this time become, in a commercial view, one of the most valuable of all insects; affording these delicate and beautiful threads that are afterward woven into silk, and used in almost all parts of the world. In the

warmer climates of the east, they are left at liberty upon the trees, where they are hatched. But in cooler countries, where these animals have been introduced, they are kept in a room with a southern aspect, built for the purpose, and fed every day with fresh leaves.

As these animals have but a short time to live, they make use of every moment, and are almost continually spinning, except at those intervals when they change their skin. When its parts are disposed for assuming the aurelia form, the animal prepares itself a retreat to defend it from external injuries, while it is seemingly deprived of motion and life. This retreat is no other than its cone or ball of silk, which Nature has taught it to compose with great art, and within which it buries itself till it assumes its winged form. This cone or ball is spun from two little longish kinds of bags that lie above the intestines, and are filled with a gummy fluid of a marigold colour. This is the substance of which the threads are formed; and the little animal is furnished with a surprising apparatus for spinning it to the degree of fineness which its occasions may require. This whole thread is about three hundred yards long; and so very fine, that eight or ten of them are generally rolled off into one by the manufacturers. The cone, when completed, is in form like a pigeon's egg, and more pointed at one end than the other; at the smaller end, the head of the aurelia is generally found; and this is the place

that the insect, when converted into a moth, is generally seen to burst through. The animal, when thus set free from its confinement, appears exhausted with fatigue, and seems produced for no other purpose than to transmit a future brood. It neither flies nor eats; the male only seeking the female, whose eggs he impregnates; and their union continues for four days without interruption. The male dies immediately after separation from his mate; and she survives him only till she has laid her eggs, which are not hatched into worms till the ensuing spring.

However, there are few of these animals suffered to come to a state of maturity; for as their bursting through the cone destroys the silk, the manufacturers take care to kill the aurelia, by exposing it to the sun, before the moth comes to perfection. They then take off the floss, and throw the cones into warm water, stirring them till the first thread offers them a clue for winding all off. The cones are kept under water till a proper quantity of the silk is wound off: however, they do not take all; for the latter parts grow weak, and are of a bad colour. As to the paper-like substance which remains, some stain it with a variety of colours, to make artificial flowers; others let it lie in the water till the glutinous matter which cements it is all dissolved: it is then carded like wool, spun with a wheel, and converted into silk stuffs of an inferior kind.



THE WORKING BEE.



THE QUEEN BEE.

THE bee is a small insect of a brown colour, covered on the corselet and belly with hairs. They have four wings and six legs, the thighs are also covered with strong bristles. Each bee is furnished with a trunk or proboscis, commonly folded up, but capable of being extended at pleasure. It is with this instrument that they collect their food; not by pumping or sucking, but by licking the farina from flowers. There are three kinds in every hive. The working bees, which are neither male nor female, but born merely for the purpose of providing for the young in their helpless state.

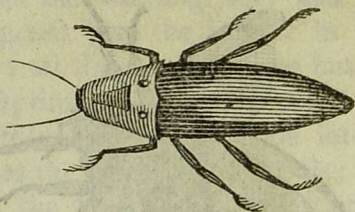
The drones or males which gather no honey, but are larger than the working bee, and have no sting. The queen bee, the largest in the hive, and which lays all the eggs that are hatched into the future offspring. The social order and toils of bees are amazing. They divide into companies; one roves the fields for materials; a second is laying out the bottom and partitions of the cells; a third is making the inside smooth from corners and angles; and a fourth is gathering food for the rest. In these cells the queen deposits her eggs, which first produce a maggot or worm, fed continually by the old bees; it is next closed up in the state of an aurelia, and last of all breaks its shell in the shape of a complete bee. The fecundity of the queen is so prodigious, that she is soon capable of multiplying her family to such a degree, that the hive can no longer contain it. To her the whole swarm, from ten to twenty thousand in a season, owe their birth. It appears that her life is more precious than any of the rest; for if a hive is deprived of her, however numerous, it will undertake no labour.

While there is sufficient room in the hive, the bees remain quietly together. It is necessity alone that compels the separation. Sometimes the young brood refuse to depart. Dreadful battles are then seen to ensue: but the victory terminates in favour of the veterans, and the rebellious offspring are driven off, not without loss and mutilation, to shift for themselves.



THE HUMBLE BEE.

THIS is the largest of all the bees. The body is black and hairy, only the back part about the vent is white, and the fore part is a little yellow. They build their nest in holes of the ground, of moss or dry leaves, mixed with wax. Each bee makes a separate cell, about the size of a small nutmeg, which is round and hollow, containing the honey in a bag. Several of these cells are joined together in such a manner, that the whole appears like a cluster of grapes. The females, which have the appearance of wasps, are very few, and their eggs are laid in cells, which the rest soon cover over with wax. It is uncertain whether they have a queen. The humble bees gather honey, as well as the common bees; but it is neither so fine, nor so good, nor the wax so clean, or so capable of fusion.



THE FIRE-FLY.

THE fire-fly is about an inch broad, and as much in length, or longer; the head, which is brown, has two small horns or feelers, and the neck is red: they have four wings, the uppermost of which are hard and brown, and those underneath soft. The shining substance is contained in a black bag on their backs, which they hide with their wings when they sit. In the rainy season there are prodigious swarms of them among the trees, and they feed chiefly upon their blossoms. There are several kinds of these flies in the East Indies.

F I N I S.

