

JANUARY.

NATURE is the general name for all things which are not the result of human labour or contrivance; the works of Nature, therefore, abound everywhere, and the science of Natural History may be considered to be, the knowledge of Nature in all her departments.

It is impossible to study any portion of this vast field, without finding that it is dependant on other portions. The brief life of the insect, for instance, depends on the time of existence of the plant by which it is nourished, and this plant in its successive development, depends on its locality, the season of the year, on the state of the atmosphere, &c., yet we cannot call the season of the year or any of the other circumstances the cause of its existence, though no doubt can exist of such a connection. It is, therefore, highly desirable at all times in noting down any periodical phenomena, to also note all such that may happen simultaneously. In the course of this year we shall mention some that may be expected to happen in each month, in an easy manner, without the technicalities of science, in the hope that many of our readers may be thereby interested, and that others may be assisted in their pursuit of Natural History.



THE GOLDEN CRESTED WREN.

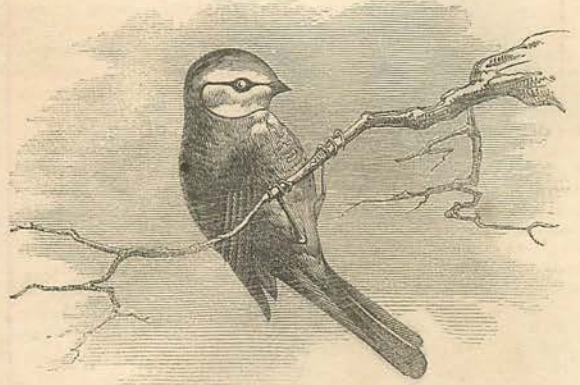
The length of this handsome little bird in its feathers is about three inches and a half; weighs about seventy grains; bill slender, straight, having an inclination upwards; eyes remarkably lively; the feathers on the crown are long, forming a crest of a bright gold colour, which appears brighter by being contrasted with a band of black, passing from the eyes to the extremity of the crest; this band it can erect at pleasure, and with it at times nearly obscures the crest; legs slender; in the female, the crest is of a pale yellow, and the colours in general incline to brown (*Atlas des Oiseaux d'Europe.*)

This is a very beautiful bird, and it is the smallest of all European birds; if the above be the average weight, it would take one hundred to weigh one pound avoirdupoise. When stripped of its feathers, the length of the body does not exceed an inch, yet this bird braves our severest winters, during which its sprightly note may often be heard, even whilst snow is falling. From the circumstance of these birds generally resorting to the tops of the largest trees, winter is the best time for observing them, as at other times they are concealed by the leaves. In severe seasons, it approaches the habitations of man like the redbreast, but it does not, however, come so close to the vicinity of houses, nor does it remain there so long as the redbreast. Indeed, from its light weight, enabling it to seek its food at the extreme ends of slender twigs, where the redbreast cannot be supported, its resources are greater than those of that bird. Their nest is composed of green moss, interwoven with wool, and lined so thickly with small feathers as to conceal the eggs, which are from seven to eleven in number, of a pinkish white, rather darker at the thick end, and scarcely larger than peas. They are so light that it takes about eight hundred of them to weigh one pound.

During the month of January, the redbreast sings; larks collect in flocks; the nuthatch is heard; the gray, white, and yellow wagtails appear; the missel thrush; the hedgesparrow; the greater titmouse; the thrush; the common wren; the skylark, the woodlark and the chaffinch sing. Rooks resort to their nest trees; jackdaws begin to frequent churches; tribes of small birds surround farmhouses for food, and to obtain shelter from the cold; and towards the end of January or the beginning of February, is heard the chirping of the blue titmouse; this bird is popularly known as the tom tit, and as such will be recognised by the following engraving.

This lively little bird is in length rather more than four inches; weighs about five drachms and a half; bill strong, sharp pointed, very thick at the base—the hinder claw very long. In the female the colours are somewhat duller than in the male.—(*Atlas des Oiseaux d'Europe.*)

The plumage of this common little bird is pleasing from its delicate colours. A large portion on each side of the neck, a line over the eye leading to the back of the head, and the forehead is white. A line of blackish-blue commences on each side of the base of the bill, passes the eyes, immediately under the line before mentioned to the back of the head, and surrounds the portion of white on each side of the neck—and continues up to the chin. On the lower part of the back of the neck is another portion of white. The head, the wings, and the tail are blue; the under parts yellow; and the legs are of a blueish gray.



THE BLUE TITMOUSE.

This bird feeds principally on insects, it is seen frequently in gardens and orchards, hanging from a branch, and minutely examining every crevice for the eggs and larvæ of different insects. In winter, it will often pull off the buds of trees, and its operations have been much dreaded by gardeners. But the eminent naturalist, Mr. Selby, observes, that, "the trifling injury sometimes committed by the abrasion of a few blossom buds, is more than compensated by the destruction of innumerable larvæ, and eggs of the insect tribe, which are usually deposited in or about those essential parts of fructification, and which, if allowed to proceed through the necessary changes, would effectually check all hope of produce." And again, it is very likely that they never attack a single bud except they perceive evident traces of insects. It is not always satisfied with insects for its food; at times it will attack small birds, particularly such as are ill, which it dispatches with its bill, by cleaving their skulls and picking out their brains; they place the foot on their food whilst picking it to pieces; and they conceal what they cannot eat for a future occasion, by carefully covering it with leaves, or any other substance that may be near.

The nest is generally in the holes of trees, it is composed of moss, well lined with feathers, hair, and wool; and the female lays from six to eight eggs, of a clear transparent white, speckled with rust colour at the larger end.

This bird is about the first among small birds, in discovering an enemy, a weazel or an owl; and it is distinguished above all others by its rancour against the latter, which it unremittently persecutes whenever it ventures forth in daylight.

Insects are generally torpid, yet occasionally, on fine days, some will swarm under hedges in sunny situations; gnats may be seen playing about in the Sun's rays; the black slug, the gray slug, and the earth worm come forth chiefly at night in open weather.

Towards the end of the month the Snowdrop flowers, and if the month be mild the mezercon opens its delicate blossoms.



THE SNOWDROP.

This is the first flower that awakes from the repose of winter, and cheers us with the re-animation of nature; and hence it has been made the emblem of consolation—as the dove was sent forth from the ark to ascertain whether the waters were abated, so does the Snowdrop seem selected by Flora, to find whether the frost be mitigated, and as a herald to announce the approach of Spring.

FEBRUARY.

DURING this month the brown wood owl hoots; the common hen sits; the turkey cock struts and gobbles; the yellow hammer sings; the raven builds; rooks pair, as also do partridges; missel thrushes pair; the stone curlew clamours; the ring-dove coos; redwings and fieldfares depart; and the green woodpecker makes a loud cry.



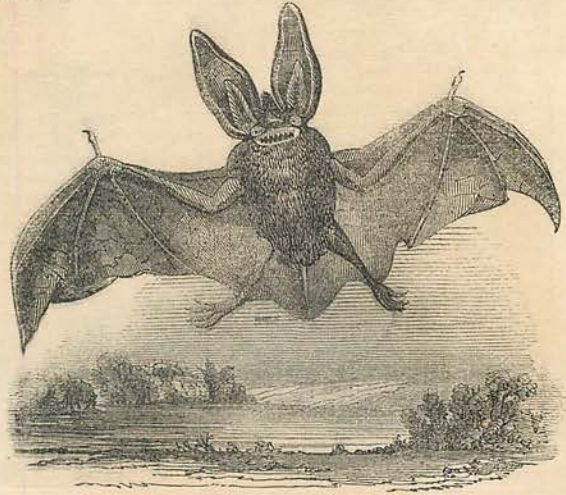
THE GREEN WOODPECKER.

Woodpeckers are, generally speaking, handsome birds, neatly and stoutly made. Their first labours of hammering the tree appear to be the pairing call. The male begins this curious species of wooing, by beating against a hollow portion of the tree, on a female replying, a place is selected in which to build the nest. If it be necessary to excavate any portion of the tree in order to make the hole large enough to receive the nest, the pair labour and feed by turns until this is done. The largest of the British kinds of woodpeckers, is the Green Woodpecker, and which is represented in the above engraving. The following description of it is from "Bewick's British Birds."—"Its bill is two inches long, of a triangular shape, and of a dark horn colour: the outer circle of the eye is white surrounding another of red; the top of the head is of a bright crimson, which extends down the hinder part of the neck, ending in a point behind; the eye is surrounded by a black space, and from each corner of the bill there is a crimson streak pointing downwards; the back and wing coverts are of an olive green; the rump yellow; the quill feathers are dusky, barred on the outer web with black and white; the bastard wing is spotted with white; the sides of the head and all the under parts of the body are white, slightly tinged with green; the tail is marked with bars like the wings; the legs are greenish. The female differs from the male in not having the red mark from the corner of the mouth." This is the most common of the woodpecker genus in this country, and may be met with in most parts of this island, where it is readily discovered by its discordant note; and also by the noise it makes when seeking its food, which consists entirely of insects, their eggs, and larvæ. When it discovers a tree that is decayed, it tries with its bill different places, till by the sound it discovers the part that requires the least labour to perforate; it then pecks with its bill till it arrives at the unsound part, which generally affords a plentiful repast. The rapidity of the strokes is so great that they can scarcely be counted; nor can the motion of the head and neck be seen. The tongue is furnished with barbs, and with a glutinous secretion, by means of which it can readily take up small substances, and convey them to its mouth. It also feeds on beetles and ants, and it is more frequently seen on the ground than the other kinds of woodpeckers—and may be seen inserting its tongue into ant holes, from which it draws out these insects in abundance. It will sometimes make an aperture in the side of an ant hill with its bill and feet, and then feeds on the insects and eggs at its leisure. They usually lay five or six eggs in the hollow of a tree, at the depth of two feet or more from the entrance. The young ones climb up and down the tree before they are able to fly. When flying their motion is undulatory and irregular, proceeding forward by jerks, and they take but very short flights.

Occasionally, either the nettle or the brimstone butterfly appears; field crickets open their holes; frogs croak and spawn; the toad appears, and bats may frequently be seen if the temperature has been for some time at or above 50°. Following is the figure of one of the most common of the British bats.

Its length is one inch and three quarters, the extent of its wings is seven inches. Its ears, by which it is distinguished, are more than an inch in length; slightly rounded at the tips, and furnished with a kind of secondary auricle, so placed as to serve for a valve or guard to the auditory passage. It is most commonly seen fluttering about during the evenings of Summer and Autumn. They are supposed to produce two young ones at a birth, which they suckle for sometime, the young being naked and helpless; capable only of clinging to the teats of their mother,

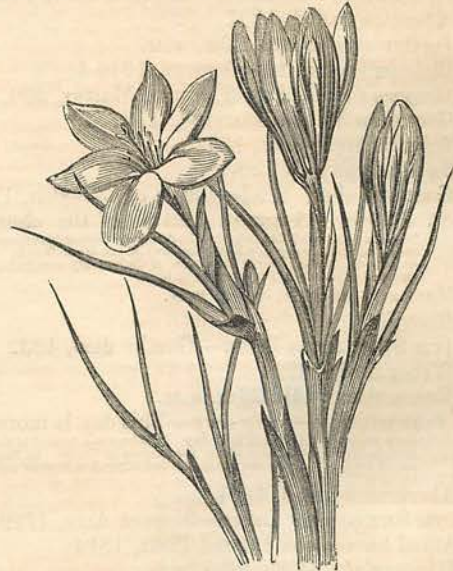
which they do most tenaciously. This habit is necessary, for the mother neither lies nor sits on the ground when she suckles her young, but hangs suspended to the branch of a tree or otherwise. When she goes out to feed, she bears the young thus attached to her body, and continues doing so till they are capable of flight. They lodge in old buildings, hollows of trees, or caves. In these recesses they pass the winter in a torpid state till the warmth of the atmosphere awakes them from their slumbers. The general appearance of the bat, together with its appearing in the dim twilight, at times when ignorance converts anything white into ghosts, has excited the idea of something hideous—and, therefore, the



THE LONG-EARED BAT.

ancients consecrated it to Proserpine, Queen of Hell. Painters usually exhibit fiends and demons with the leathern wings of the bat. Nevertheless, the bat is more useful than hurtful to man, by the destruction of so many insects, which are its favourite food. From experiments made by Spallanzani, on this species of bat and on others, it appeared that they would fly with precision in the darkest chamber without touching the walls, when their eyes have been closely covered; or even entirely out, and their sockets covered with leather. It would, therefore, appear that they must be possessed of some additional sense which enables them to do this.

February is usually found to be the most barren month in the year for flowers. The Crocus will, however, blossom; annexed is its representation:—



THE CROCUS.

This is one of the flowers of which Homer has composed the general couch of Jupiter and Juno.

And sudden hyacinths the turf bestrow,  
And flow'ry crocus made the mountain glow.

ILLUSTRATED BOOK 4.

No flower is so sensible of the effects of light and heat as the crocus. Its petals expand during the day, and close at night. But they will expand at night under the light of a lamp or candle; or if placed within the influence of the heat of a fire, though shaded from the light of it, the petals open in such circumstances as readily as they do in bright light.

MARCH.

DURING this month the pheasant crows; the wryneck appears; the crow builds; the golden crowned wren sings—(See January); the blackbird lays; the raven sits; the willow wren appears; the turkey lays; the sand marten, the swallow, and the pied wagtail appear.



BITTERN.

Of all the birds which resort to this island for food and shelter, that of the swallow tribe is of all others the most inoffensive and social; all, except one species, attach themselves to our houses, and clear the air of gnats and troublesome insects. The sand marten is the smallest of all our swallows, and the least numerous of them; it frequents the steep sand banks in the neighbourhood of rivers, in the sides of which it makes deep holes and places the nest at the extremity. The length of the bird is less than five inches. The bird's head, neck, breast and beak is of a mouse colour; over each eye there is a light streak; the throat, the forepart of the neck and belly is white, the wings and tail are brown. The pied wagtail is a very common bird; its length is about seven inches, bill black, eyes hazel, hinder part of the head and neck black; forehead, cheeks, and sides of the neck white; the fore part of the neck and part of the breast are black, bordered by a line of white; the back and rump are of a dark ash colour; lower part of the breast and belly white, legs black. During the years 1843 and 1844, the times of the arrival of many birds were recorded by John Blackwall, Esq., F.L.S., of Llanrwst, Denbighshire, North Wales. (See the reports of the 13th and 14th Meetings of the British Association for the Advancement of Science.)

About the beginning of this month, in wild and unfrequented places, near rivers, is heard the booming cry of the bittern; of this cry, Buffon says, "Solemn and dreary as in an evening may appear the various notes of the secluded inhabitants of the banks of the unfrequented rivers, whether we consider the loud scream of the wild goose, the croaking of the mallard, the whining of the lapwing, or the tremulous neighing of the jack snipe, there is no tone so dismally hollow as the booming of the bittern. It is impossible for words to give those who have not heard this evening call, an adequate idea of its solemnity. It is like the interrupted bellowing of a bull, but more hollow and louder, and is heard at a mile's distance, as if issued from some formidable being that resided at the bottom of the waters." To this dismal cry, superstition has added her terrors, and among peasants, whenever heard, it is supposed to be the foreteller of evil. Buffon concludes his account of this singular bird, by quoting the following:—"I remember, says a modern author, in the place where I was a boy, with what terror this bird's note affected the whole village; they considered it as the presage of some bad event, and generally found or made one to succeed it. I do not speak ludicrously; but, if any person in the neighbourhood died, they supposed it could not be otherwise, for the night-raven had foretold it; but, if nobody happened to die, the death of a cow, or a sheep, gave completion to the prophecy." Terrible as this cry is to the peasant, it is no other than the love cry to courtship, or connubial felicity; and in this month the neighbourhood of the bird may be discovered by this note, which it has erroneously been supposed to make by thrusting its bill into the cavity of a dry reed, and blowing therein; the noise is however made when it is in an erect position, and seems to be caused by the bird's blowing hard through its bill, which at that time is nearly closed. The length of the bittern is about two feet, its height when it stands up is about two feet, and in breadth of the wings when expanded about four feet, and its weight is about three pounds; the length of its bill is about four inches.

The following is the description given by Bewick—(See his *British Birds*):

"The beak is strong at the base, straight, sharp on the edges, and gradually tapers to an acute point; the upper mandible is brown, the under inclining to green, the mouth is wide, the gape extending beyond the eyes, with a dusky patch at each angle; the irides are yellow. The crown of the head is somewhat depressed, and

covered with long black feathers; the throat is yellowish white; the sides of the neck pale rust colour, variegated with black, in spotted, waved, and narrow transverse lines, and on the fore part, the ground colour is whitish, and the feathers, fall down in less broken and darker lengthened stripes. These neck feathers, which it can raise and depress at pleasure, are long and loose, and, inclining backward, cover the neck behind; those below them on the breast, to the thighs, are streaked lengthwise with black, edged with yellowish white; the thighs, belly, and vent are of a dull pale yellow, clouded with dingy brown.

"The plumage on the back and wings is marked with black zigzag lines, bars and streaks, upon a ground shaded with rust colour and yellow. The bastard wings, greater coverts, and quills are brown, barred with black. The tail, which consists only of ten feathers, is very short; the legs are of a pale green, bare a little above the knees; the claws, particularly those on the hind toes, are long and sharp, the middle ones serrated.

"The female is less than the male; her plumage is darker, and the feathers on her head, breast, and neck are shorter, and the colours not so distinctly marked."

The bittern, though not numerous, is dispersed throughout this country; it is a shy and solitary bird, living at most in pairs, and as soon as the young can leave, they follow the habits of their parents, living alone till they pair and have families. Thus, in whatever point of view we consider them, they are a very singular race of birds. For the want of room we cannot say more about them; but, from their peculiar habits, they are well worthy of a more lengthened account.

SPRING.

Fresh Spring, the herald of love's mighty King,  
In whose cote-armour richly are display'd  
All sorts of flowers, the which on earth do spring,  
In goodly colours gloriously array'd.

SPENSER.

DURING this month the following plants will blossom:—The crocus in meadows; sweet violet on hedge banks; narcissus (daffodil), in moist thickets; the mouse-ear chickweed on walls and in rubbish; the sloe tree in hedges; hairy lady's smock in moist pastures; the common coltsfoot in moist places; the daisy in pastures; the common butcher's broom on gravelly heaths; the poplar and the yew tree may be expected to blossom.

The violet that so sweetly perfumes the morning air of Spring, and is the emblem of Modesty, now beautifully embroiders our banks where the soil is light and where there is partial shade.



DAISY.

The English name of Daisy is derived from a Saxon word, meaning Day's eye, possibly so called, from the nature of its blossom, which expands at the opening of day and closes at sun set.

The little dailzee, that at evening closes.

SPENSER.

The daisy contributes more than any other flower to infantine amusement, and the joys of childhood, and, hence, it is the emblem of innocence.

In the Spring and play-time of the year,  
That calls the unwonted villager abroad,  
With all her little ones, a sportive train,  
To gather kingcups in the yellow mead,  
And pink their hair with daisies.

COWPER.

This little flower was highly thought of by Chaucer, who says—

Of all the flowers in the mede,  
Then love I most these flowers white and rede,  
Such that men called Daisies in our town;  
To them I have so great affection.

The most careless observer of plants must have noticed that the daisy not only closes its petals at night, but that they are also carefully folded over the yellow disk in rainy weather.—(See the beautiful poems on the Daisy, by Wordsworth, Montgomery, and Burns.)

APRIL.

This month is the most remarkable in the year for the arrival of migratory birds; amongst them may be expected the yellow wren, the common sandpiper, the redstart, the cuckoo, the lesser pettechaps, the black cap, the whitethroat, the whinchat, the nightingale, the pied flycatcher, the swift, the middle yellow wren, the willow wren, the fern owl, or goatsucker, &c. The Snipe pipes, the Tit-lark sings, and the Turtle coos.



THE GOATSUCKER.

The Yellow Wren is about five inches in length; bill brown, inside and edges yellow; eyes hazel; upper parts of its plumage yellow; inclining to a pale olive green; under pale yellow; over each eye there is a whitish streak; the wings and tail are of a dusky brown, with pale edges; legs yellowish brown. This species is rather scarce.

The Common Sandpiper is about seven and-a-half inches in length; the bill is about an inch long, black at the tip, fading into pale brown towards the base. The head and hinder part of the neck are brownish ash, streaked downwards with dark narrow lines; the throat, the fore part of the neck and the belly are principally white. The principal colour of the upper parts of the plumage is ash, blended with glossy olive brown. The Redstart is six inches in length; is but little more than half an ounce in weight; bill short; eyes hazel; legs and claws slender.

The cry of the male Cuckoo is well known, and is generally heard about the middle of this month; it ceases the latter end of June. The bird is fifteen inches in length, twenty five in breadth, and it weighs about four ounces-and-a-half; its bill is black, and somewhat bent; irides and eyelids yellow; the tail consists of ten feathers of unequal length. The female differs in colour, being more inclined to brown, and is nearly an inch shorter than the male.

The Fauvette or Pettechaps,—length about six inches; bill blackish; eyes dark hazel; upper part of the body dark brown; throat and belly of a silvery white. This bird frequents thickets, and imitates the notes of other birds. The Lesser Pettechaps,—length six inches; bill pale brown; upper part of the body brown; this bird is also a mocker. The Black Cap is about five inches in length; the top of its head is black; sides of the head and back of the neck ash colour; beak and wings of an olive grey; the throat and breast of a silvery grey; belly white; legs blue.

The White Throat is about five inches and a half; bill dark brown, lighter at the base; the upper part of the head and beak are of a reddish ash colour; throat white; breast and belly silvery white; the wings and tail are dusky brown. The breast and belly of the female are entirely white.

The Whinchat is in length about five inches; bill black; the feathers on the head, neck and back, black; a streak of white passes from the bill over each eye, towards the hinder part of the head, which is white.

The Nightingale is six inches in length; bill brown; the whole of the upper part of the body is brown: the under parts pale ash colour. The female is very similar; this bird is, therefore, not remarkable for the richness of its colours, though deservedly so for the excellence of its song.

The Pied Flycatcher, length nearly five inches, breadth about nine; bill black; eyes hazel; forehead white; top of the head, the back, the tail and legs are black; all the under parts from the bill to the tail are white; the female is rather less, and has the colours more blended, the white parts approaching to dusky and the black not so deep a hue, and also wants the white on the forehead, so conspicuous in the male; both sexes vary in their markings, as is frequently the case with pied birds.

The Swift is nearly eight inches in length; the wings measure from tip to tip, eighteen inches; its general colour is sooty black. It arrives later, and departs sooner than any other of the swallow tribe.

The Goatsucker, which we have engraved above, has several names in different parts of the country, as the night-hawk; fern-owl; churn-owl; goat-owl; wheel-bird; night-jar; night-swallow, &c.

This bird is the only night-bird which preys upon insects on the wing; it has a great number of names, a few of which we have mentioned. The engraving will give some idea of its form and markings. Its length is about ten and a half inches; its breadth about eighteen; weight about three ounces; bill small, flat, weak, and somewhat hooked at the tip; mouth large; eyes large, full and black; legs slender, short, feathered below the knees. The plumage is freckled with browns of various hues, mixed with rust colour and white. The male is distinguished by an oval white spot on the two outside tail feathers.

This bird is very much in the habit of resorting to cool places, where cattle stand when annoyed by flies; and it stood accused at a very early age of sucking goats, which has no foundation but in ignorance; the bill being quite unfit for any kind of suction, and, instead of doing any harm to animals in such situations, it does them a great deal of good by ridding them of flies which annoy them.

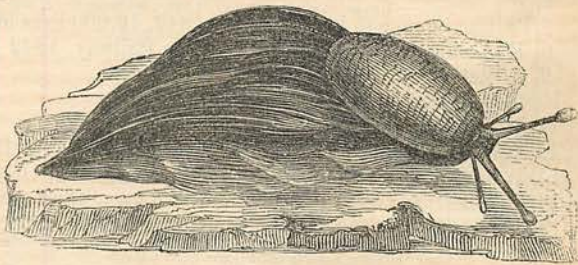
Much activity during this month pervades the insect world; and, every day fresh ones are seen. Of these, the following may be expected:—the stinging fly; red ants; common black fly; lady bird; black snail; shell snails, in numbers; large bat; several kinds of flies; cabbage butterfly, &c.

The mouth of the goatsucker, including the bill, is very curious. Its gape is wider than that of any other birds of these islands. During the day it resorts to low woods and coppices, where it remains till the dusk of the evening, when it goes in search of food, which consists of beetles, moths, cockchafers, &c.

The Slug is characterised by having an oblong body, furnished above with a fleshy shield, and beneath with a flattened expansion, answering the purpose of a foot or locomotive organ. On the right side of the breast is a large orifice; and on the front of the head are four feelers or tentacula, or, as they are popularly termed, horns.

The most familiar example of this genus is the common black slug, generally called the black snail, so frequently seen in fields and gardens in damp weather. They are produced from whitish gelatinous eggs, deposited in shady situations, beneath the surface of the ground.

This animal is so well known that a more minute description of it would at first appear not needed; but, as it is one of those unfortunate animals whose appearance inspires mankind with disgust, and renders it an object of persecution, as such, we fear but few of our readers would be tempted to examine it, or to think it worthy of attracting any portion of their admiration. We shall, therefore, be more particular in its structure than we otherwise should, in the hopes of awakening some feelings of compassion towards it.



BLACK SLUG.

The body is, as before remarked, oblong; it crawls on its belly; progressing in its motion by means of internal muscles, so arranged as to give a fixed reliance on each in succession, as the advance forward is made. In certain situations where the ground is ill adapted to the animal's locomotion, a slimy juice is expelled from its body to smooth the path, or give it an additional hold. The skin is thick. It has four tentacula, capable of considerable extension; the larger or hinder pair are furnished with eyes at their summits; these, as well as the other pair, act as feelers to assist in avoiding danger, and it is said that if these be destroyed they will again form. In almost all particulars, except in not being furnished with a shell, they resemble the common garden-snail. This animal is so constantly under our convenient observation, that we need not describe it; this little creature, which we so cruelly crush beneath our feet, considering it as a common enemy, would well repay witnessing its interesting operations, and particularly to those who are studying conchology; here they can trace the various changes that take place, from the slight viscous covering with which the animal's body is first coated or merely glazed, till that substance becomes a firm shell adapted to the form and use of its inhabitant. And in what other animal can he watch the formation of the shell so easily? In the open fields these creatures perform useful purposes in conformity to the ends of their creation, by consuming the exuberant productions of nature, which, without its operation, would encumber the surface of the ground, and check the progress of future vegetation, &c. All these animals feed entirely on vegetables. We would bespeak some compassion towards these much persecuted creatures; but need we say more, than that, where great reproductive powers, or a strong tenacity of life, exist in any class of the Almighty's creatures, great ends are to be worked by their agency, however humble their powers may appear to man. And a conviction of this will be forced upon any one who will condescend to examine the good services these despised creatures render mankind.

M A Y.

The arrivals of birds this month are but few; we may expect the fly catcher and the sedge warbler, and the females of the previous arrivals; the females usually appearing a week or more later than the males. During the month the blackcap, willow wren, and generally the Summer warblers, will be in full song during the day, and the nightingale at night. Most birds are busy in nest building or in hatching.

The *Spotted Fly Catcher* is in length nearly five inches and three quarters; bill dusky, the base of it whitish, and beset with short bristles; head and back light brown; wings dusky, edged with white; the breast and belly white; the throat, and sides under the wings, tinged with red; tail dusky; legs black.

The *Sedge Warbler* is about five inches and a half in length, and it can be distinguished, by a white streak extending from the gape towards the eye, but before it reaches that organ dividing itself into two, so that the eye is between the two divisions. This is always seen in the species, and it is a ready means of distinction.

Insects, during this month, become very numerous; moths and butterflies are very abundant; glow-worms shine; bees swarm, dragon flies; and beetles appear, &c.



THE DRAGON FLY—LIBELLULA VIRGO.

Dragon flies, or those insects which are commonly called horse-stingers (but why such a name should be applied we know not, as they are perfectly harmless), appear in this month; and, from their elegant forms, beautiful colours, the elegance and delicacy of their wings, which are as transparent as gauze, often ornamented with coloured spots, exhibiting, when viewed, at different inclinations of the sun's rays, all the tints of the rainbow, always attract a good deal of attention. Indeed, nothing can be more beautiful than to watch these brilliant insects, darting backwards and forwards in a continual flight after flies, moths, butterflies, and insects. Their mouth is capable of much distension; and, from their great activity, an insect when observed has but little chance of escape; they, in their turn, are devoured by birds.

There are many species of dragon flies; but, in a popular work of this kind, we have only room to mention a few. The most remarkable is that called *Libellula Varia*; it may be seen about the decline of Summer, and is of singular beauty; its length is three inches; the wings, when expanded, are four inches from tip to tip; they are varied with yellow and brown, the tip with a white spot terminated by a black one. The head is very large; neck slender; the eyes occupy by far the greater part of the head, and they are of a blue-grey with a varying lustre. The front is greenish yellow; the body is long, slender, and black, with rich variations of bright blue and grass green. The wings are perfectly transparent, and vary in appearance according to the inflections of light. This insect during the middle of the day is extremely rapid in its motions, darting off on the slightest alarm from the spot on which it had settled. During the early hours of the morning and late in the evening, it is easily taken: at such times it sits with its wings spread, and it will suffer itself to be readily seized by them.

*Libellula Grandis* is the largest found in Britain, and is not inferior in bulk to any insect which this country produces. The fore-part of the head is yellow, eyes brown and large; abdomen reddish, often spotted with white and black upon the top and bottom; wings more or less of a yellow complexion, and distinguished by a brown spot on the outer edges. The colours of this insect vanish when dead.

*Libellula Virgo*—(See the engraving above). This is one of the most elegant of the European insects. Its body is slender, long and cylindrical, which, as well as the head, is usually either of a bright but deep golden-green, or of a deep gilded blue; wings transparent at the base and tips, but are each marked in the middle by a very large oval patch of dark violet blue; this insect is common about waters.

*Libellula Paella*. A small but elegant species, wings colourless but transparent, and each marked near the tip with a small oblong, black spot. From the brilliancy and richness of its colours, it has been called the King's fisher. There are of this, as well as of the preceding one, different varieties according to the difference of spots and colours; but it is generally of a bright and beautiful sky blue, variegated with black bars on the joints. The eyes are round, protuberant, and placed on each side of the head at a distance from one another.

The addresses of the male of these species to the female seem carried on in a rough manner. He hovers about on the wing till the object of his amours makes her appearance; he then watches an opportunity of seizing her by the neck, with those pincers with which his tail is armed. In this way he flies through the air, till the female, yielding either to inclination or necessity, forms her body into a circle, adapted to the purpose of nature; consequently, two of these insects are frequently seen coupled in the air, exhibiting the form of a ring. The female, at a proper period, retires to some stagnant water, and deposits the eggs, which are of a white

colour, resembling those produced by the common blow fly. The larvae are soon hatched, and the insect retains its aquatic habits nearly a year before it attains its full size; at which time the winged insect appears. Its life in this state is short in comparison with that which it passed in its aquatic form, the frosts of



THE DRAGON FLY—LIBELLULA PUELLA.

Autumn destroying all those that have not been devoured by birds. Many persons would scarcely believe that these brilliant insects, flying with such rapidity in the pursuit of other insects, had been inhabitants of the water for a year. And it is impossible not to be struck with wonder in contemplating their changes, for while living in the water, they would perish by a long exposure to the air; in their winged state, they would be destroyed by submersion under the water—an instance not less striking than that of the butterfly in point of form, which exhibiting one and the same animal appears in different periods of its existence.



THE COCKCHAFFER.

This insect is very abundant in our island, and it has a variety of names; for instance, as the brown tree beetle, blind beetle, May bug, chafer, May bob, or oak web, jack horn, geffry cock, acre bob, &c., as it is variously termed in different parts of the country.

Its colour is brown; thorax hairy; tail inflected; a triangular white spot at each incisure of the abdomen. The larvae is soft and gray, with the head and legs protected by a shelly covering of a yellow, brown colour. While in the larva state, which continues for a space of two or three years, it devours the roots of corn, grass, and other vegetables. They are much sought after by crows, rooks, and other birds, as well as animals. It is the larva of this insect that is so frequently turned up by ploughing, and in quest of which crows are often seen following the tracks of the plough-share. Children are also employed to follow the plough and collect the white worms, as they are called.

The eggs are laid in small detached heaps beneath the surface of some clod; and the young, when first hatched, are scarcely more than one eighth of an inch in length, gradually increasing in their growth, occasionally changing their skins, until they are of the size of two inches or more. At this time they descend to the depth of two feet, where they construct an oval cell, very smooth in the inside; and, after a certain time, divest themselves of their last skin, and appear in the chrysalis form; in which they continue till the succeeding Spring, when they assume the perfect beetle; but remain for a considerable time in a weak state, not venturing out till the fine days of May or the beginning of June; at which time the beetle emerges from its retirement and commits its depredations on the leaves of trees &c.; breeds and deposits its eggs: after which its life is short. It is eagerly sought after by swine, bats, crows, and many kinds of birds.

We cannot conclude this account without expressing a hope that when it is advisable to destroy these insects, that means should be adopted to do it in the quickest possible way; and that children should be checked from the very cruel practice of running a pin through the curious pointed extremity of its body, round which the beetle whirls in its endeavours to escape from the torture inflicted upon it.

The vegetable world is in a very active state; during the month, the following plants will be in flower:—Common privet in thickets; speedwell, in pastures; common butter-wort in moist heaths; holly tree in hedges; cream-coloured violet on heaths; heartsease in corn-fields; honeysuckle in thickets; buck-thorn in hedges; lesser periwinkle in thickets; greater periwinkle in moist places; narcissus in sandy pastures; hare-bell in thickets; lily of the valley on shady hills; common lily of the valley in thickets; barberry in hedges; cultivated cherry-tree, apple, bramble, pheasant's eye, crowfoot, butter-cup, candy-tuft; bryony, Scotch fir-tree, willow &c., &c.

JUNE.

The songs of the birds continue; the skylark may frequently be heard soon after two o'clock in the morning; young birds are now in abundance, and the old ones are much engaged attending to them. Rooks desert their rookery with their young ones. The swallow tribe are very active, and the call of the quail is heard.



BOMBYX POTATORIA—MOTH.

Insects abound everywhere, and they are too abundant even to enumerate; the stag-beetle during this month flies on fine evenings. Grasshoppers appear; young frogs migrate. Butterflies and moths are innumerable; for an account of the former (see next month). We shall at once proceed with that of one species of the latter.

The distinguishing characteristics of moths are sharp-pointed horns, which in many species are simple, and in many are beautifully feathered along the sides. This genus, like that of the butterfly, is so exceedingly numerous, that we have room only to speak of one fully. The one we have chosen is designated Bombyx. The insects of this tribe fly only in the evening. During the day they lie under the leaves, or beneath the branches, or in the clefts of trees; towards evening they crawl about, then flutter their wings, and become active as the evening advances; finally they start from the trees, and continue flying about till it is quite dark. The males are commonly the first on the wing in search of the females, which in some few species are without wings, in which case they wait upon the trees or herbage for the arrival of the male. They are all produced from caterpillars; these are of a long cylindrical form, having in some few species a smooth skin; sometimes the skin is covered with a fine silky down or hairs, and some of the larger kinds are covered with spines or bristles.

All the larvæ subsist on vegetables. Their jaws are strong and of a horny texture; and below there is a small opening through which the creature draws a silky thread, which is of considerable use to it, for when it wishes to descend from one branch of the tree to another, instead of pursuing a circuitous route, by crawling or walking, it need only fasten one end of the thread to any particular spot, and lower itself by its assistance to the place required. In a similar way, when observed by birds or other enemies, it can drop in an instant and elude the enemy, waiting concealed among the leaves till the danger is over, and then remounting to its former spot by aid of its silken thread.

Like other larvæ of the moth tribe, they cast their skins several times. When full grown, and approaching the pupa state, they spin a sort of web, as is well known in the case of the silkworm (*Bombyx mori*) which is of this genus. These moths remain in this state within their cocoon for a certain time, some for only a few days, others a few weeks, and others many months. The same day that the creatures emerge from the pupa state they are in a condition to perpetuate their race; almost immediately after which the male dies; and the females expire soon after they have deposited their eggs in a proper place for the young brood to find subsistence.

The cocoons of some of these species are employed in the East Indies for the manufacture of silk. We now proceed to describe a few of the species, which may be expected to appear this month.

*Bombyx Potatoria*, the engraving of which is above, wings slightly indented, yellow brown, with two white dots, in the upper pair. The caterpillar from which this moth proceeds is tailed, crested, hairy, dark brown, speckled with white.

*Bombyx Vinula*. This is a very elegant insect, without being remarkable for the gaiety of its colours. Its wings are grey, with blackish streaks; the thorax and abdomen grey, spotted with brown, and both are extremely downy; the body is marked with transverse black bars. The caterpillar of this moth is far more brilliant than the moth itself; it is nearly two inches in length, and it is of a beautiful green, with the back of a dull purple; being separated from the green on the sides by a pair of white stripes, which begin from the head, run upwards to the top of the back, and from thence are continued along the sides to the tail; the face is flat, yellowish, surrounded by two borders, the inner one

black, the outer one red; and it is distinguished by two black eyes or spots on each side of the upper part. On the insect being irritated, two long red horns proceed from the tail; the insect seems to use them for the purpose of frightening its disturbers. This creature possesses the power of ejecting from its mouth, to



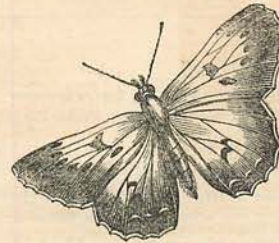
MOTH: BOMBYX VINULA.

a considerable distance, an acrid reddish fluid, which it uses as a further defence and which produces considerable irritation, if thrown into the eyes of the spectator. This caterpillar may be found on willows and poplars. The chrysalis is thick, short, and black, and, in the month of May or June, gives birth to the moth.

*Bombyx Caja*, or Great Tiger Moth. The upper wings whitish, with irregular blackish spots; lower ones orange, spotted with black. The caterpillar is of a deep brown, with white specks; extremely hairy, and feeds on plants. It changes into a chrysalis in June, and the moth appears in July.

We now proceed briefly to describe a few butterflies visible in this month:—

The Cabbage Butterfly. The wings are rounded, entire, white; tip of the upper pair brown. This is the common white butterfly, known in our gardens; it proceeds from a yellowish caterpillar, freckled with bluish and black spots, and which changes during Autumn into a yellowish grey chrysalis; the butterfly appears early in the Spring, and is seen almost throughout the Summer.



ARION.



ARTAXERXES.

*Arion*. Wings above are blue, edged with brown, and spotted with black beneath grey, with many small eyes.

*Artaxerxes*. Wings brown, upper pair with a white dot in the middle, lower ones with red marginal spaces, with red and white dots on the margin.



STAG BEETLE.

*Lucanus Cervus*; Stag Beetle, sometimes measures nearly two inches and a half in length, from the tips of the jaws to the end of the body. Its general colour is a deep chesnut, with the thorax and head, which is of a blacker cast; the jaws are often of a brighter or redder chesnut colour than the wing shells; the legs and under parts are black, and the wings, except during flight, are concealed under the shells, are large, and of a fine pale yellowish brown.

JULY.

During this month those birds sing only which breed late. The young birds of the earlier broods begin to warble in a soft tone, or to *record*, as it is termed. The quail calls; young partridges fly; towards the end of the month the cuckoo leaves us; swallows and martens congregate, and swifts begin to depart.

Insects are very abundant—ants, flies, beetles, butterflies and moths abound.

In fact, we have now arrived at the time when the most splendour of all the order of insects, consisting of the moth and butterfly tribes, are becoming numerous. Who has not seen the elegant butterfly fluttering over flowers, which they frequently excel in splendour of colour, and at length resting on them with a touch so light as not to appear to be resting there? Who has not seen them, whilst reposing on the flower, opening and shutting their beautiful wings, alternately erecting and depressing their long and slender antennæ, popularly called horns? and who has not seen the beautiful apparatus by which they extract the nectar from the flowers? We feel assured that there are few among our readers who have not noticed all these things, and who have not been struck with the elegance of these beautiful creatures.

All butterflies and moths proceed from caterpillars, which afterwards change into chrysalides, out of which after a certain time proceeds the perfect insects. The female butterfly deposits her eggs upon such substances as are proper to nourish the caterpillars which proceed from them; thus the common cabbage butterfly places them on cabbage—(See last month); the peacock butterfly on nettles: the swallow-tailed butterfly on fennel or rue: the atalanta butterfly on nettles, &c.—(See next month). These eggs are simply attached by some glutinous secretion, to leaves or stems; in the same way are the eggs of moths placed, except that they are inclosed in down.

The distinguishing characteristics of butterflies are that the horns terminate in a small knob, and the wings, when the insect is at rest, are so placed that they meet upwards. The species of butterflies are so astonishingly numerous, \* that it is found necessary to divide them into different sections. The largest of the genus are termed knights or chiefs, and are divided into Greeks and Trojans, and named from the principal heroes of the Iliad. The Trojans are distinguished by red coloured spots on each side near the breast; and are generally dark coloured. The Greeks have no red marks on the breast, and their colours are generally more brilliant. In our pictorial illustrations of last month we have represented two of those insects, Arion and Artaxerxes, as appearing then, and which will continue to appear in this month. In our engravings of next month will be found represented the swallow-tailed butterfly, which then appears, also with its caterpillar and chrysalis.

Butterflies and moths are divided into three distinct genera, viz.—Butterfly, Sphinx, and Moth. In the last month we have spoken of one species of the moth tribe, and we now proceed to speak of that of the sphinx.

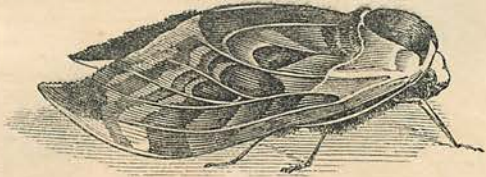


Sphinx Moth.

The Sphinx or hawkmoths are a genus distinguished by the antennæ or horns, tapering at each end, and which are generally short in proportion to the animal; and by the thickness of their bodies, which in most terminate in a point as is seen in the engraving above.

There are nearly two hundred different species of this genus; they fly about only in the morning and evening; they are slow on the wing, and often make a humming noise. They extract the nectar of flowers. The name of Sphinx is applied on account of the posture assumed by the caterpillars of the larger species, which are often seen with their fore parts risen from, and the rest of the body applied flat to the surface on which they are situated, an attitude much resembling the Egyptian Sphinx. Many of the species are of great beauty and elegance. Most of these caterpillars descend a considerable depth beneath the surface of the

ground, when they are about to change into the chrysalis state, and after lying, in some species a few weeks, in others many months, the chrysalis, by the motions of the included animal forces itself up to the surface, and the complete insect appears in its perfect form.



Sphinx Moth.—Ocellata.

The above engraving is that of the sphinx ocellata, in an attitude characteristic of moths generally.

The wings are angular, and the upper ones are brown, as also is the body, the former with various shades; the lower wings are of a bright rose colour, each marked with a large black oval with a blue interior and black centre. This insect proceeds from a green caterpillar of a rough surface; marked on each side by seven oblique yellowish white streaks, and one other near the head nearly horizontal; and it is furnished with a horn at its tail. It is chiefly found on the willow; in the month of August or September it passes into the chrysalis state, which is represented in the annexed engraving.



Chrysalis of the Sphinx Ocellata.

And the complete insect emerges from this state in the month of June or July.

The Sphinx Atropos, or the death's head moth, may be expected to be found this month. This is the most remarkable and the largest of this genus of moths. It is described by Dr. Shaw as follows:—"The upper wings are of a fine dark grey colour, with a few slight variations of dull orange and white; the under wings are of a bright orange colour, marked by a pair of transverse black bands; the body is also orange coloured, with the sides marked by black bars, while along the top of the back, from the thorax to the tail, runs a broad blue-grey stripe; on the top of the thorax is a very large patch of a most singular appearance, exactly resembling the usual figure of a skull, or death's head, and is of a pale grey, varied with dull ochre and black." When this insect is disturbed it emits a sound something like the squeaking of a mouse; and from this circumstance, as well as from the mark above mentioned, it is held in much dread by the ignorant in several parts of Europe, its appearance being looked upon as an ill omen of approaching fate, similarly to the effect of the cry of the bittern as described in March.

The caterpillar of this insect is often sought after, and we shall, therefore, be particular in its description. It is sometimes nearly five inches in length, and, being of a proportionate thickness, it surpasses every other European insect of its kind, and is very beautiful; its colour is a bright yellow; the sides are marked with seven broad bands of a mixed violet and sky-blue colour; the tops of these bands meet on the back, and are varied on that part with black specks; on the last joint of its body is a horn, hanging over the joint, of a rough surface, and of a yellow colour. The favourite food of this caterpillar is the potatoe and the jessamine; it is principally found on the former. It changes into the chrysalis state in the month of July or August, and the moth appears in the following June or July.

The Privet Hawk-moth.—The wings are entire, the lower ones red, with three black bands; the abdomen is red with black belts. The caterpillar will be found on Privet, and is of a green colour, with oblique lateral streaks, which are of a black before, and white behind; the tail is four-toothed.

Those curious vegetable substances of the fungus tribe may be expected this month. The following is one of that species generally found growing on trees.



Fungus Hydnum.

The fungi form a numerous tribe of vegetable bodies, differing in firmness from a watery pulp of short duration, to a leathery woody texture, often very permanent. They cannot properly be said to have any herbage, much less anything like leaves or flowers.

\* Latreille has described above 1800 species in the *Encyclopedie Methodique*.

AUGUST.

Young broods of goldfinches are now seen; lapwings congregate, as also do linnets; the nuthatch chatters; the wryneck departs; the aberdevine, the mountain finch, the crossbeak, the turnstone, and the knot arrive; and birds re-assume their Spring notes.

The nuthatch is six inches in length. A black line passes over each eye from the bill, extending down the side of the neck as far as the shoulder; all the upper part of the body is of a fine blue-grey colour; the cheeks and chin are white; breast and belly of a pale orange colour. The aberdevine is in length nearly five inches. Top of the head and throat, black; over each eye there is a pale yellow streak; back of the neck and the back yellowish olive; rump yellow; under parts greenish yellow. The crossbeak is nearly seven inches in length. It will be readily distinguished by the upper and lower mandibles crossing each other at the points; its general colour is reddish on the upper parts; belly white. The turnstone is eight inches in length—and it is a prettily variegated bird. The ground colour of the head and neck is white, with small spots on the crown and hinder parts; a black streak crosses the forehead to the eyes.



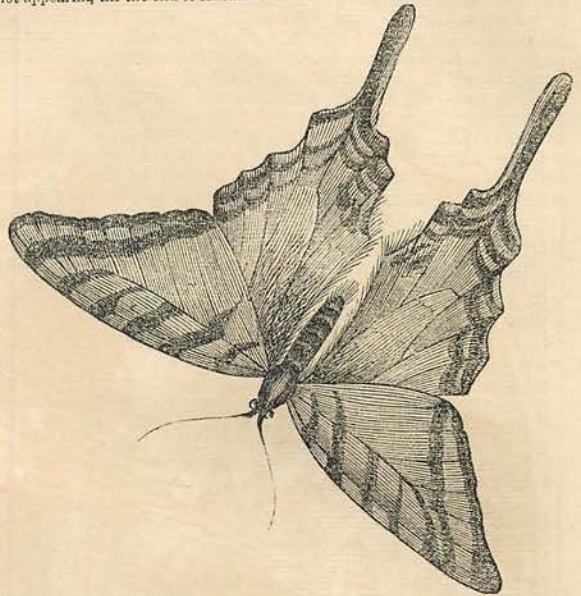
FEMALE. GROUSE. MALE.

We have above given an engraving of black grouse, the male and the female, though at this time, or before, the sexes have separated and live in flocks apart.

The male is a bird of considerable size, being in length nearly two feet, and its stretch of wings is nearly three feet; and when in prime condition, which is during the early parts of the Winter, it weighs from three to four pounds. The bill is short and very strong; the eyes vary in different lights, from hazel to blue; over the eye is a naked space of very bright scarlet colour, and granulated; under the eye there is a similar one of a white colour. The one above the eye is much dilated in the breeding season, and frequently extends to the top of the head. The patch under the eyes, in old birds, is very conspicuous, but in young birds it is scarcely visible till after the second year. The general colour of the plumage is a deep black, with rich reflections of purple, blue, and bronze green. The blue is finest on the neck, and the green on the feathers of the tail. The under part is black with the exception of the under tail coverts, which are white. A spot on the wing, the tip of the bastard wing, the bases of the quills, except the first four, and the tips of some other quills are also white; forming a bar of white across the wings, as seen in the engraving. The wings are broad; and the tail consists of sixteen feathers, the external ones a little produced, and curling outwards, so as to give them that peculiar form as seen above. The female, as will be observed, differs very considerably in size, and also in colour; the general colour being brown, deeper on the back than any other part, and mottled all over with black; the tail is not so much produced, and the forked form is scarcely perceptible. The weight is about two pounds four or five ounces.

In Autumn and Winter the males live in flocks and at peace, but on the return of Spring they assemble in great numbers, on the tops of high and heathy mountains; they having put on the rich glosses of their nuptial plumage, begin to fight for superiority, as is the case with all polygamous birds. This fight continues with great bitterness till the vanquished are put to flight. The victors then perch on the tops of high trees or other elevated spots, and by crowing and clapping their wings, give notice to the females, who soon resort to them. It is said that each cock has two or three hens, which seem particularly attached to him. The nest is made on the ground; the female does not perch till her brood are able to perch with her. During this time the males remain in the close vicinity of the females, watching them and their broods with great attention; until they

are matured, when he joins the other males for the season of celibacy. The young cocks at first resemble the mother, the external distinctions of sex not appearing till the end of Autumn.



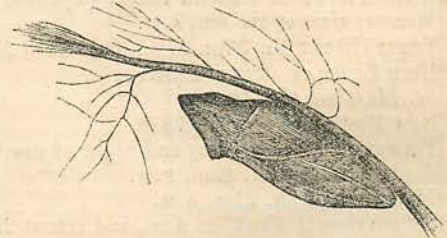
SWALLOW-TAIL BUTTERFLY.

Insects are very numerous; the above is one of great beauty; it is of a brilliant yellow, with black spots along the upper edges of the larger wings; all the wings are bordered with a deep edging of black, decorated by a double row of crescent-shaped spots, of which the lower row is yellow, and the upper blue. The under wings are tailed, and are marked at the inner angle with a round red spot, edged with blue and black.



THE LARVA OR CATERPILAR OF THE SWALLOW-TAILED BUTTERFLY.

The caterpillar is of a green colour, encircled with numerous black bands, spotted with red, and is furnished on the top of the head with a pair of short tentacula of a red colour—which it occasionally protrudes from that part. It feeds principally on fennel, and it is sometimes found on rue; in the month of July it changes into the chrysalis state.



THE CHRYSALIS OF THE SWALLOW-TAILED BUTTERFLY.

The colour of the chrysalis is of a yellowish-grey; it is generally affixed to some part of a plant, or other neighbouring substance; and from this state, in this month, the complete butterfly, as represented and described above, proceeds.

The Peacock butterfly is very common. The wings are angular, spotted with black, and on each there is a large blue eye. The caterpillar from which it proceeds is black, with many white spots. It feeds principally on the nettle, and changes into the chrysalis in July, and the butterfly appears in August. Mr. White, in his *History of Selborne*, records an instance of seeing this insect on March 6th. We now proceed to describe the Atalanta butterfly. Its wings are black, upper pair with a red band and white spots, the lower ones bordered with red behind. The caterpillar from which this beautiful insect proceeds, is brown and shiny, and feeds on nettles—it changes into a chrysalis in July; the butterfly appearing in August.



SEPTEMBER.

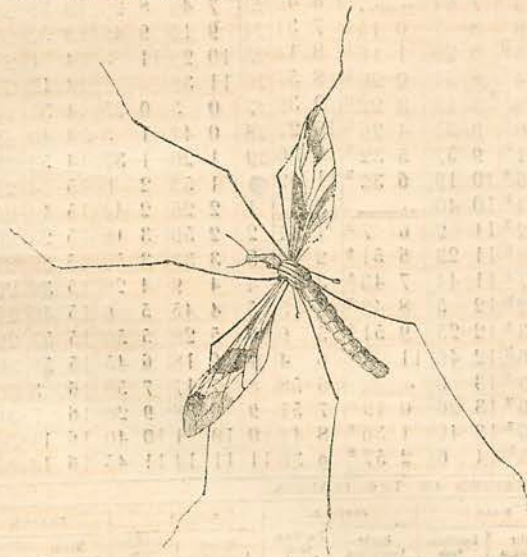
During this month, stone curlews clamour; wood owls are noisy; the flycatcher, black cap, nightingale, white throat, depart, and the woodcock returns, &c.

The partridge is in length about thirteen inches, and weighs about fifteen or sixteen ounces—the female about two ounces less; the breadth, when the wings are spread, is about twenty inches; the bill is hard, and light-brown; the eyes are hazel, and they are partly surrounded by a warty skin, which is placed principally behind the eye, and continues nearly half round it; the general colour of its plumage is brown and ash, elegantly mixed with black, and each feather is streaked down the middle with buff colour; the chin, cheeks, and forehead are tawny, and being palest in the females. Between the eye and the ear is a portion of naked skin of a bright scarlet, which is not very conspicuous, except in old birds; on the breast is a chesnut mark in the form of a horse-shoe (see the engraving); this the female wants for the first two years, but, after that time, it is not nearly so good a distinguishing mark as is the bare skin round the eye, which, in the female, always inclines to a dull crimson, and never to that bright scarlet which it does in the male. The legs are yellowish in the young, and, as they increase in age, become grey; those of the male are furnished with a blunt spur or knob behind. The general colours are alike in both sexes. The age of partridges is discovered by the bill and legs; and another method is, from the appearance of the last feather on the wing, which is pointed after the first moult, but in the following year is quite round. We may remark here, that the feathers on the body are double, two feathers proceeding from the same quill; the inner one which is much the smallest, has two webs projecting from each side of the shaft.



COMMON PARTRIDGE.

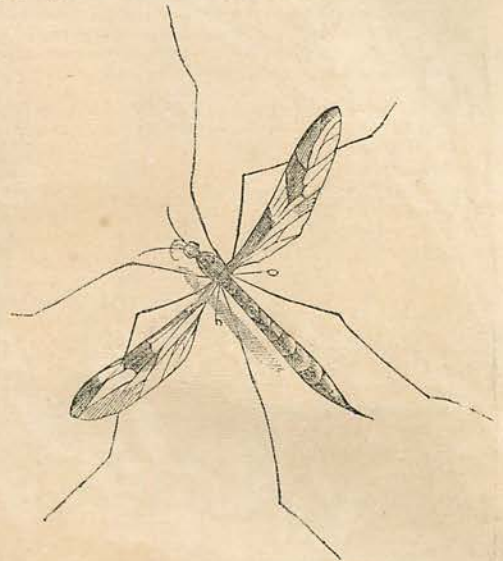
Insects are still numerous; moths, among which is the death's-head moth, butterflies, beetles, grasshoppers, field bugs, and flies, abound. The caterpillar of the privet-hawk-moth may now be found on privet, and that of the glow-worm on



MALE CRANE-FLY: TIPULA HORTORUM.

heaths and banks. During this month, and the next, crane-flies are abundant, particularly in pastures, where they rise in swarms on being approached; these creatures are found through the whole summer, but less numerous than they are

at this time. They are popularly termed daddy-long-legs, tailors, &c.; and are often found of nearly an inch in length, from head to tail; their bodies are very slender, and are composed of nine rings. The above is a drawing of the male, and the following is that of the female.



FEMALE CRANE-FLY: TIPULA HORTORUM.

Their bodies are of a brownish colour, and their corselets are so elevated, that they appear hump-backed; the head is small, and the neck very short; the eyes are so large that they nearly cover the whole surface of the head. Each ring of the body is composed of two half cylinders, which are joined into one by means of a membrane, which gives them room to extend them or to close them at will. The horn at the extremity of the tail is the characteristic of the female, by means of which it deposits its eggs a short depth in the ground. It is curious to see them thus engaged, the body being vertical and moves up and down each time an egg is deposited, of which each female lays several hundred, passing over a considerable distance during the operation.

The beauties of Autumn, during this month, may be expected, and the beautiful tints on the foliage of trees and plants, cannot escape the most casual observer.

Autumn tinges every fertile branch  
With blooming gold and blushes like the morn.—AKENSIDE.

In the month of July, we spoke of one species of fungus, the order is divided into many sections. That called Agaricus, is distinguished by the under part of the cap having parallel plates, called gills, within which the seeds are placed. That called Boletus, has tubes or circular cells instead of gills. And it is this striking difference that distinguishes it from the mushroom. The boletus, too, is of a circular form; the puff ball is well known, and it has its seeds internally. There are nearly three hundred different species of agarics in this country; of all these, one only has been selected for cultivation in our gardens, the "agaric campestris," or common mushroom. The gills are loose, pinky red, changing to a liver colour, in contact with the stem, but not united to it. Very thick set; the gills are white, changing to brown when old, and becoming scanty; regularly convex; fleshy, flatter with age; from two to four inches, and sometimes more, in diameter, liquefying in decay; the flesh white; the stem solid, white, and cylindrical, from two to three inches high, half an inch in diameter. When the mushroom first makes its appearance, it is smooth and nearly globular, and in this state it is called a button. Annexed is a drawing of the species agaric.



MUSHROOM: AGARIC.

OCTOBER.

SEVERAL migratory birds leave this month; the redwing, fieldfare, royston crow, wood pigeon, and snipe, arrive; broods of goldfinches appear, &c.

The goldfinch is in length nearly five inches; and weighs about an ounce: its bill is white with a blackish tip, and of a conical form; the forehead and throat are of a rich scarlet colour, with a black line passing between them from the bill to the eyes, which are black; the cheeks and the lower part of the neck white; top of the head black, which extends downwards, and divides the white on the cheeks from the white spot on the hinder part of the neck. The whole of the upper parts with the sides of the breast are of a bright yellowish brown; belly white; wings black, marked in the middle of each feather with gamboge yellow; rump whitish; six middle tail feathers, black with white tips; legs slender and of a pale brown.



THE GOLDFINCH.

The colours nearly similar in both sexes; those of the female are scarcely so vivid, and the wing coverts are inclined to brown. This bird is well known, and highly esteemed in every part of the kingdom, and it is very common throughout the country. The Count de Buffon says:—Beauty of plumage, melody of song, sagacity, and docility of disposition, seem all united in this charming little bird, which, were it rare, and imported from a foreign country, would be more highly valued; these qualities, together with its natural hardiness of constitution, all combine to make it a general favourite.

Its song, which may be heard at almost every season of the year, is brisk, lively well kept up, and extremely musical and cheerful.

The goldfinch's nest is a very beautiful structure; it is externally formed of moss, dry grass, and lichens, and lined with the down of thistles, hair, and wool. It usually lays four or five eggs, of a bluish-white colour, slightly spotted with dark purple at the largest end.



THE BULLFINCH.

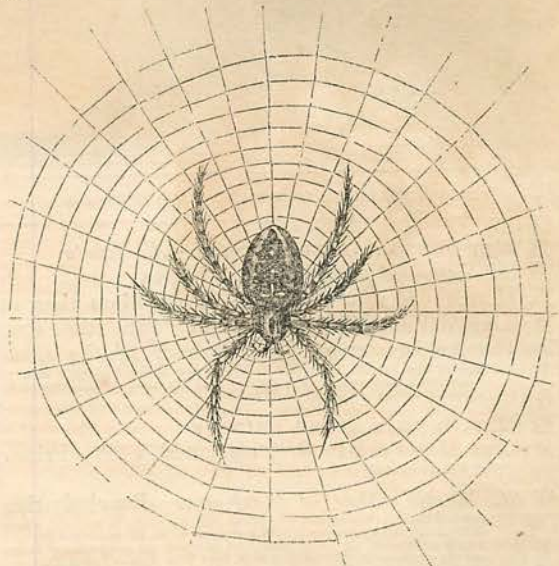
The bullfinch is in length six inches; in breadth, when its wings are spread, about ten inches; and weighs near three-quarters of an ounce; bill short, very strong, and dusky. The upper mandible is much hooked, and sharp pointed; eyes large and black; the upper part of the head, and the ring round the bill, are of a fine glossy black, the back ash colour, the breast and belly red, wings and tail black, legs slender and dark brown, claws long and curved, colours very

similarly disposed in both sexes. Those of the female are less bright, and the under parts of a reddish brown. Both sexes are very subject to alter in the colours of their plumage, frequently becoming quite black when kept in confinement.

The note of this bird is soft, and is far from unpleasant. It is so low that it frequently escapes observation. When confined it may be taught to whistle a variety of tunes; its note is usually called piping.

Spiders abound on every shrub; and when we consider that the spider is destitute of a distinct head; without horns; one half of its body attached to the other by a very slender connexion, and so soft as not to bear the least pressure; its limbs so slightly attached to its body that they fall off at a very slight touch; it appears ill adapted either to escape from danger which threatens it on all sides, or to supply itself with food; the economy of such an insect deserves notice.

They have usually five teats at the extremity of the abdomen, whose apertures they can enlarge or contract at pleasure. It is through these apertures a gummy fluid exudes, and it is of a yellow colour in the common garden spider, which we have delineated below. From each of these teats they discharge a thread. The first object a spider has to accomplish, is to attach its thread to some object, as the commencement of the ground work for its future operations. The web of the most common of the spider construction in this country, is that of the diadema, the common garden spider; its web consists of lines diverging at equal distances from the centre, which are then connected by a series of transverse bars; spiders in general station themselves at the centre of their webs, with their heads downwards. Annexed is a drawing of the garden spider in its web.



THE GARDEN SPIDER IN ITS WEB.

The colour is reddish brown, abdomen round, and marked with white spots in the form of a cross. The body varies much in colour from a darker to a lighter reddish-brown. The position of its eyes is . . . . . It has eight legs. There are above a hundred species of this genus, which are separated into distinct sections, according to the number and position of their eyes.

In forming this web, the top line is first spun, the other outer threads of the frame-work are then added, and a cross line is then carried from one point of the web to another, exactly opposite. From the middle of this cross line, the insect ascends or descends, having first glued another thread at the centre, which it attaches to the outer lines, and then, going along the latter to a certain distance, it fastens the thread to one of the outer or frame lines. In this manner it constructs the diverging lines, next it attaches a thread to one of the lines proceeding from the centre, and then drawing it out with its hind legs, ascends along the line till it can lay hold of the next line, down which it descends, until it reaches a spot exactly opposite to where the thread was attached to the other line; it then quits its hold with the hind legs, and the thread is glued to the proper spot, and so on, till the whole web is completed. There are many other methods of weaving, peculiar to different species of spiders, and some that deserve particular attention. One other, that of the common house spider, we did intend to describe, but cannot do it for the want of room; but we would recommend our readers to notice it themselves.

During this month, there are but few additional flowers. We may enumerate the following—common ivy, on old walls; common pheasant's-eye, in cornfields; stinking geranium, by road sides; and even these few, towards the end of the month, soon fade away.

Fade, flowers! fade, nature will have it so;  
Tis but what we must in our autumn do!  
And as your leaves lie quiet on the ground,  
The loss alone by those that lov'd them sound;  
So in the grave shall we as quiet lie,  
Miss'd by some few that lov'd our company;  
But some so like to thorns and nettles live,  
That none for them care, when they perish, grieve.—WALLER.

## NOVEMBER.

BIRDS are generally mute during the month, except the robin, the wren, and the thrush, which frequently break out into song as in the summer. The goldfinch, also, may sometimes be heard, and as cheerily in the midst of fog as in the brightest sunshine.

The following birds assemble in numerous flocks—greenfinches, house-sparrows, skylarks, fieldfares, redwings, starlings, chaffinches, and the long-tailed titmouse.

During the month, the following birds may be expected to arrive from the North, or from the mountainous parts of the country. The stock-dove, the golden-plover, the widgeon, the Bohemian wax-wing, and the golden eye-duck.

The Stock-dove, or wild-pigeon, is in length fourteen inches, the bill red, and curved at the point; the head, neck, and upper part of the back, are of a blue-grey; the rump and belly grey, feet dull-red, and the claws black.

The Golden-plover is of the size of the turtle. Bill dusky, eyes black; all the upper parts of the plumage are marked with bright-yellow spots upon a dark-brown ground; the fore part of the neck and the breast are the same, but much paler; the belly is almost white; the quills are dusky; the tail is marked with dusky and yellow bars; the legs are black—(See *Beech's British Birds*)

The Widgeon quits the desert morasses of the north on the approach of winter; in its general shape it much resembles the duck; its length is about twenty-three inches, and weighs about twenty-three ounces. The bill is narrow, about an inch and a half in length, of a blueish-lead colour, tipped with black. The crown of the head is of a cream colour; the rest of the head, the neck, and the breast, are chestnut; the belly to the vent is white, the ridge of the wing is ash-brown.

The Bohemian Wax-wing. This is a very beautiful bird; it is about eight or nine inches in length, and about three ounces in weight. The bill is black at the tip, the chin and throat are deep velvet-black. The feathers on the crown are long and silky. These birds sometimes appear in numerous flocks; and sometimes they are not seen for many years together. In 1810, they were numerous, and none were seen for ten or twelve years afterwards.

The Golden-eye Duck is named from the colour of the iris of the eye, which is very brilliant, of a bright-yellow colour, and shines like a spot of gold on the side of the head.



THE COMMON SNIFE.

The Common Snipe is very numerous during this month; it is about nine inches in length, exclusive of the length of the bill, which is three inches. Its breadth, in the stretch of its wings, is about fifteen inches. The weight, when full grown, is about a quarter of a pound. The bill is flattened, and of a dull-reddish colour at the base, yellowish in the middle; rough and brownish at the tip; it is generally very smooth in the living bird; but from its soft consistency, in consequence of containing more living substance than a hard bill, becomes shrivelled and loses its colour after death. The top of the head is of a russet colour, marked with three streaks of pale brown, that one, which is the best defined, passes over the middle of the head, and the others form a semi-circular band over each eye; from the gape over the eye, and down the side of the neck, runs a dark brown streak; from the corners of the mouth a dark brown mark extends nearly to the eye, and continued after it passes the eye; the chin, throat, and fore part of the neck, are of a very pale brown with irregular markings of a darker colour; and the rest of the under parts are white. The back is black, with reflections of green and brown. The feathers on the shoulders are elegantly striped lengthwise, and barred across with black and yellow; the wings are of a dusky brown; the quills are tipped with white; the tail is composed of fourteen feathers; the legs are slender, varying in colour in different subjects, some being of a light green, and others of a dark-slate colour; the toes are long, and delicately slender; the colour of the eyes is hazel, and are placed so far backwards in the head as to command the

whole horizon without turning. And it is in this that their safety lies, they being without any weapon of defence.

The bill is a very curious instrument, and seems to be possessed of a very keen sense of smell. They bore into the soft sludgy ground for some distance for their food, and as they bore directly down upon it, they must scent it from the surface. The head extends over the bill in all directions, and, therefore, its weight is always ready to assist the bill, in its lateral twistings, as it is bored into the sludge. Its food consists principally of small worms, and it is said also to eat slugs, which breed abundantly in its usual haunts.

The haunts of the snipe are in marshy places, and usually where there is an abundance of tall aquatic herbage to conceal themselves and their nests. In these places, when undisturbed, it is continually pacing the ground, with its head erect. And at short intervals it moves its tail from side to side. It is a shy bird, and extremely watchful; therefore, is difficult to approach. On perceiving the sportsman and his dog, which it does at a great distance, it immediately conceals itself among the variegated withered herbage, so similar in appearance to its own plumage, that it is almost impossible to discover it while squatting motionless in its seat.

When alarmed, the snipe utters a shrill whistle, and rises with considerable noise; it flies with great swiftness, and after having been roused two or three times, it is difficult to get within shot.

The snipe is migratory, and is met with in all countries. They leave Great Britain in the Spring, and return in the Autumn; it has been well ascertained that many remain and breed in various parts of the country, but their disappearance from the low grounds is complete during the Summer. The love cry of the male begins in March or April, according to the season, and he continues to call till a partner answers. The female makes her nest in retired and inaccessible parts of the morass, and it is rudely constructed of withered grasses and a few feathers. The eggs are four or five in number, of a greenish colour, with brown spots. The young, as is the habit with most ground birds, come out of the shell covered with down, and with their feet so well developed, that they very speedily are able to find their own food, the parent birds, however, attending them till their bills have acquired sufficient firmness to be able to assist themselves readily.

Insects are scarce; many flies, before this time, have become blind and have died; some, however, still continue, and a few will be seen even to Christmas.

The common blow-fly, or *Musca carnaria*, is hairy, black, with its abdomen shining. As every one knows, it deposits its eggs on animal flesh, either fresh or putrid. The eggs are hatched in a few hours, and the maggots, when full grown, which is in eight or ten days, are of a yellowish-white colour, with a slight tinge of pale-red. This maggot is of a lengthened shape, with a pointed front, in which the mouth is situated, and from this the body gradually increases to the other end, which is broad and flat, and on which are two specks resembling eyes, so that a person might take this for its head, and the head for the tail. The insect afterwards changes to a chrysalis, the skin dries round it, and the whole becomes of an oval form. In ten days more, the fly emerges, which is too well known to need further description.

These insects are of great service in the economy of nature, their province being the consumption of decaying animal matter. It was asserted by Linnaeus, that three of these flies would consume a dead horse as quickly as a lion. This was, of course, with reference to the offspring of such three flies; and as a single female, in the course of a few days, lays 20,000 eggs, the maggots of which, being so exceedingly voracious, that in the course of the first twenty-four hours, they increase in weight more than two hundred times; it is very possible the assertion is correct.

*Musca meteorica*; this fly is very troublesome to horses in summer; it is black; abdomen a pale grey; wings yellowish at the base; they have an aversion to elder—a branch of which, placed on the head of the horse, frequently saves both horse and rider much annoyance. They come in swarms before rain, like the species pluvialis, so called from the circumstance of vast swarms appearing before rain; this last mentioned species has five black spots on its back; and its abdomen has obsolete spots on it.

The domestic fly is an exceedingly abundant species; its face is black, with buff sides; forehead yellowish, with a black band; antennae black; the back with five pale lines; the abdomen has black markings; legs black; wings clear, with the base yellowish. This fly, as is well known, is capable of walking upon the ceilings of rooms, with its back downwards, or upon highly polished glass; in which situation its body is not supported by its legs. From the experiments of Sir Everard Hone, it appeared that this was effected by the formation of a vacuum, by means of the close application of the edge of the feet, and the subsequent muscular raising of the central parts, so that the pressure of the atmosphere acted upon the outer sides of the feet, and not upon the inner.—(See *Philosophical Transactions*, for 1816, pages 149 and 322.)

Mr. Blackwall has published a paper in the *Linnaean Transactions*, based upon a careful set of experiments, and he considers that an adhesive secretion is emitted, by means of which, they adhere to whatever place they may alight.

The hawthorn, though stripped of its leaves, is yet attractive, from the circumstance of being covered with berries; in our gardens the Virginian creeper, and various kinds of chrysanthemums are in flower. We are indebted to China for these autumnal gifts, which so considerably shorten the winter of our gardens; formerly at this time the floral season was ended:—

All green was vanished, save of pine and yew,  
That still displayed their melancholy hue;  
Save the green holly, with its berries red,  
And the green moss, that o'er the gravel spread.

DECEMBER.

BIRDS are generally mute during this month; the robin and the wren, however, sing in all weathers.

Woodcocks are the most abundant during this month. They do not arrive in large flocks, but keep arriving on our shores singly, or sometimes in pairs, from the beginning of October till December. The woodcock is about fifteen inches in length, twenty-seven in breadth, and weighs from twelve to sixteen ounces; bill three inches long, and is formed in much the same manner as in the snipe; the forehead is ash coloured, and all the rest of the upper part is barred with black and grey; the under parts are yellowish, with dusky streaks lengthwise; eyes



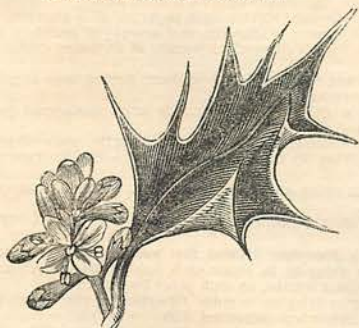
THE WOODCOCK.

large, situated near the top of the head; legs short; tail formed of twelve feathers, the two centre ones rather the longest. The colours, consisting of black, white, ash, red, brown, rufous, and yellow, are so arranged in rows, crossed and broken at intervals by lines and marks of different shapes, that the whole seems to the eye, at a little distance, blended together, giving to the bird exactly the same appearance as the withered sticks, leaves, &c., which form the background of the scenery of its usual haunts.

The chrysalides of the cabbage, the swallow-tailed and the peacock butterflies may be found under sheltered projections; also those of most butterflies and moths in their accustomed situations. Insects, with the exception of a few moths, have disappeared.

The vegetable kingdom is now in a state of repose, with the exception of the evergreens, and here and there a daisy, or a polyanthus. All appears leafless, and, in the words of Thomson—

Dread Winter spreads his latest glooms,  
And reigns tremendous, o'er the conquered year,  
How dead the vegetable kingdom lies!



SERIG OF HOLLY IN FLOWER, AS IT APPEARED IN MAY.

Though thus dead, yet there is much for a naturalist to observe. The rich appearance of trees and shrubs, by the crystallization of hoar frost, is frequently

very beautiful; and, if examined, the crystal will be found different in form on every different shrub and substance.

The chrysalized forms of snow, too, is well worthy examination. There are more than fifty different forms known, some of which are exceedingly beautiful.

The effects of snow are well worthy investigation. From experiments made by Mr. Glaisher, and published in the ILLUSTRATED LONDON NEWS of 1845, February 15th, it appeared that during the night common to the 11th and 12th of February, the effect of snow on grass caused the latter to be 32° warmer than grass not covered by snow. With a hope of being allowed to meet our friends another year, we close this division of the Almanack with the symbol of the season; but, first, we will illustrate one of the changes alluded to below, by giving its appearance as it was in May, and its appearance as at present.



BRANCH OF HOLLY WITH BERRIES AS IT APPEARS IN DECEMBER.

Upon concluding this part of our Almanack, a few remarks may be excusable. The vast fields that Astronomy and Natural History embrace, would of course preclude us from noticing other than small portions of these sciences. In the former, however, we have taken especial care that no important or interesting phenomena is omitted that will happen during the year, except, indeed, it be a new comet, of which, at present, we have no information. In the Natural History, we have noticed, in each month, the most interesting occurrences in that month; and, in detail, as far as is necessary for the general reader, and the recognition of the subject spoken of. In some cases we have entered into more particular details, where such would tend to remove either popular error or prejudice—such as in the case of the bittern, the blue titmouse, &c. And in some cases we have endeavoured to enlist a better feeling towards the despised of creation—as in the case of snails, &c. All animals are preyers, whatever be their kind of food; but, in the economy of nature, preying is preservation, not destruction, and tends quite as much to preserve the races preyed upon as those which are the preyers. Life, both in the vegetable and animal kingdom, is too abundant for the means of life. The former is almost unlimited; the latter is bounded by the quantity of matter that can exist in a particular form; and it is only the excess of life above the means of supporting it that is preyed upon. And it must be borne in mind that were no more of each kind produced, than were necessary for the continuation of that kind, all means of nourishment would be at an end.

Of this superabundance of vegetable life, snails, caterpillars, &c., from their vast abundance, and their being most numerous where there is the most food, are evidently destined to perform an important part in the economy of wild nature. These, in their turn, are eaten by birds, the eggs of which of some are preyed upon by other birds, and these last again by rapacious birds; again, it is eaten by animals, as grass by many; the grass-eater in his turn becoming food for others. And thus the wholesome balance is kept, which is the best for all. And, if in any case one class becomes too numerous, the balance is still obtained by pestilence carrying off the superabundance. Thus we see, even in the animal and vegetable kingdom, the series goes on till mildew on trees, or, in other words, fungi (as in cases of the species *Hydnum*, (see July) feed upon the ruins of the largest trees, and in general upon anything of a vegetable nature, in a state of decay. The mould on cheese, and that on bread, are both a species of fungi. In the animal kingdom the caterpillar feeds on the carcase of the largest beasts.

Nature abounds everywhere. Our life, our means of living, depend upon a partial knowledge of it. And when we consider the variety of subjects, so varied—so beautiful—so well adapted for the fulfilment of their respective parts—can we doubt that a system so extensive, yet all connected, changeful, yet so constant; parts always decaying, and always renewing; ever changing, yet always the same—that all can be without a Maker more Mighty than it all. Again, look at our Astronomical article—how many occurrences are there predicted, yet every one will happen at the time predicted. But that part of which we have spoken, is only a small portion of the universe, which is beyond all conceivable bounds. The Maker of this majestic structure must be one, compared with whom all human thought, all human power, is as nothing.

The Heavens declare the glory of GOD, and the Firmament showeth His handiwork.