

silk were left straggling disjointedly. It seemed capable of resisting the pressure of a large body, though the finger could without much difficulty be pushed through it. In color, this silk was not unlike that manufactured by the silkworm (*Bombyx Mori*), though dingier in color, and not so glossy, which might partly be caused by its exposure to the atmosphere.

It had evidently been lately deserted, though not as it would appear from the fall of the branch, as it was already filled with the excrement of the larvæ. I have often fired into one of these hanging bags when apparently uninhabited, and always found that the case; the wanderers probably return after feeding to repose in them, till they can no longer do so, when they abandon the tree altogether. This nest would have held several hundred caterpillars, and from the circumstance just mentioned, it is no doubt made larger than with the intention of only containing the inhabitants, who if they change to pupæ in their nests, must at least make more than one, which is implied but not proved by their emigration.

As I before said, the majority of the caterpillars had departed from their domicile, but the few remaining, were either too weak to follow their companions, or had not been aware of their marching. I secured these and about a dozen more, which I found a mile further on the road, at the base of a tree, on which they were collected in a cluster. I have this small community at the present time, adding a few at intervals when found. These caterpillars now but little vary in size, though they are changed in other respects. When taken they were in length about an inch and a half; before long an inch and three quarters; breadth one-fifth of an inch, though a few were nearly double; legs six, with their bases light colored, the holding points striped with black; prolegs ten, two anal, tips when exerted white. The head was a dull black or very dark brown; this was likewise the color of the whole of the upper side of the body, but lighter and with a reddish hue at the junctions of the segments; the under side was also light. The back and sides to the base of the locomotive organs were covered with hair, an inch in length, in fascicles or small bunches but spreading outwardly. On the head they were short, placed more sparingly, and of a darker tint, which is the case with the entire body of the more obese ones; on the under side the hairs were but just perceptible, very short, few, and light colored. The scarcity of the clothing of the stouter caterpillars seems to intimate the near approach of their change to the pupa state.

The color of the hair it is evident varies slightly at different periods of their lives. In the former account they were described as having the line down the back free from hair, except on the second (prothoracic) segment, and last segment but one (paratelum), but this is not correct, as the above description will shew.

In confinement these caterpillars seem to differ but little in their habits from those in a state of liberty. At first, almost every morning they commenced their marches round their new and artificial habitation, seldom leaving one behind in their migrations; still I have but little doubt that they follow each other almost entirely by feeling, as

those in the line of march were so closely united, that the aperture between each could seldom be distinctly ascertained. If an individual was removed, the one behind could not take its place, till by turning its head from side to side, and slowly advancing, it came in contact with the long hirsute clothing of the preceding caterpillar. The silken line which each leaves at all times, wherever he goes, may serve also to guide them in the track of their companions, though I think it is but secondary in use for this purpose. It must, however, be of great assistance to the leader on his return to the nest.*

Though daily supplied with fresh leaves, nature still urges them to continue their circumambulations for about an hour, almost every day, during which, they sometimes stop and remain without motion for more than a quarter of the time; no one seeming disposed to dispute with the leader. This leader is probably only *pro tempore*, though I never could discover whether the same would pioneer the little party a second time. He is probably the first that happens to move. Occasionally, however, one would press forward and break the regularity of the train, followed by others in pairs, but the leader never allowed any to come abreast of, or before him.

A day or two will *now* often intervene between these journies; they are always over before noon, after which the pedestrians rest till night, lying over one another in heaps, and they never eat during the day, employing the former time alone for that purpose, when they only move so far as will enable them to continue their repast.

They have, since I found them, only changed their skins twice; on casting the first, no difference in their appearance was perceptible, but when the second was thrown off, I observed that the tufts of hair along the centre of the back were a dark brown, the lateral ones remaining white. I am in daily expectation of seeing them begin their cocoons *separately*, but as they are still eating, it is doubtful when this will take place. Another singularity is their not growing at all, which is unaccountable, as they do not pass the winter like some of the mining caterpillars, in a torpid state. They never attempted even to begin a general nest, for which their numbers were certainly too few.

All the processionary caterpillars of other climates, of which we have any correct accounts, seem to belong to the family *Bombycidae*. In this family I formerly placed our species, hearing only of its singular habits without having seen the individual. I now find that these caterpillars are more correctly classed in the family *Arctiidae*, from the long hair with which they are clothed; when touched they also curl themselves into a ring, for a short time. As I cannot identify the pupa and imago, the genus must at present remain doubtful. The hairs of the continental species, which are short, are said to be injurious, if they fall on any uncovered part of the person, sometimes causing

* This silken line all the species of caterpillars yet known appear to spin out and lengthen as they walk, possessing a constant supply. Those on the continent having short hairs, it would seem from what we hear of them, follow only by this silken track.

painful itchings and tumours; but the clothing of our species is not so, being similar to that of the woolly caterpillars (*Arctiidae*) of England: if otherwise, the great length of the hairs would partly disarm them of their power. When the larvæ are much handled, a few of their hairs come off, but they usually appear firmly attached both to the insect and its cast skin, and the caterpillars may be lifted from their silken trains, to which they cling with great tenacity, without chance of losing any of their clothing.

In a state of liberty they seem to keep to one part of the tree till they have devoured the nearest leaves, and then to quit it entirely. If they afterwards make other silken tents—without which they could not be defended from the weather—their supply of silk must be great, or their migrations few. In their wanderings, I believe they have never been observed otherwise than in single file, every individual walking in his rank alone. Each of these assemblies must be in the first instance from the eggs of one moth, which the parent lays altogether.

Some have been able to observe them among the branches of the gum trees on a moonlight night, feeding on the leaves, when from their numbers (several hundreds) it is reported that they have been heard *eating*. Perhaps this will be more correct if interpreted *moving*, as their separate companies are never sufficiently large to make this at all probable. It is well known that the sound of the locusts gnawing the leaves, in those countries where they prevail, is distinctly, audible; but in these instances there are myriads combined, exclusive of the destruction occasioned by their larger size and more powerful weapons.

OUR NATIVE BIRDS—NO. II.

HALCYONIDÆ—The kingfisher—(*Alcedo*, Linn.). Our most common native species of this singular bird is much less handsome than its namesake of England, all its colors are sober, and have but little variety. Solitary in its habits, and differing so much from all the other feathered inhabitants of our woods and hills, it attracts our attention more to its mode of life, when compared with the “sacred bird” of our native isle.

With the exception of our winter months (for I have not seen it during that period), it frequents our woodlands at all other times of the year. In the month of September it is often observed winging its way, with that direct flight so peculiar to its species, with its long thick bill outstretched as if to cleave the air with more rapidity in its passage. This peculiarity of flight at once tells the passer by who the little wanderer is.

As the heats of summer draw on, it appears more numerous to the northward, and along the banks of both branches of the Para river. Among the small scattered villages of that district the river then appears alternately dry or in pools, at different distances down its stony bed. Here the kingfisher is frequently seen flying from tree to

tree as if in search of one favorable to his purpose. Do you see that low dry branch stretching almost across the stream?

“Thither he wings his airy flight”

and has now alighted on the extremity of the bending twigs. There sits the solitary and silent bird, his watchful gaze fixed on the water below, which to him no doubt is true though anxious enjoyment. One small speckled member of the finny tribe is seen but for a moment to ruffle the surface of the pool: as a falling stone the bird descends from his elevation, and almost ere we had time to remark his object, secures the luckless fish, and bears it to his favorite branch, where it instantly disappears down his expanded throat. Thus the bird soon obtains a meal, but we know not how long it may sometimes have to sit before a chance is afforded to capture its active prey, as it rises towards the surface.

In the autumn the kingfisher is again observed among the woods near Adelaide, and coursing along the banks of the Torrens. Though the habits and formation of this bird are not at all adapted for settling on the ground, yet it sometimes, though rarely, does so. While in the trees it will frequently utter its short monotonous and sometimes rapid notes, which are not soon forgotten, and point out to the listener where this singular bird is hidden.

In length our species is eight inches from the point of the bill to the end of the tail;* bill straight, and without a notch; upper mandible, from the base an inch and three quarters; under one a little shorter; throat white, breast and belly fawn colored, the feathers of the former tipped with light brown; crown of the head black, the feathers at the base of the bill have a lighter margin; back a dull blue, brighter near the head and tail; latter a darker blue, especially towards the points, which have a light tip; wings the same, with all but primaries edged with the fawn color, which is the entire color of the under side; a broad ring or belt of the same runs round the throat, dividing the dark color of the back, and blends with the light tints of the breast and throat; bill jet black, lighter at the tip and base of lowest mandible; legs and feet brown, with three toes before and one behind; claws black.

This species does not materially differ from the belted kingfisher (*Alcedo Halcyon*) described by Wilson, which he says is the only one found in the United States, where it is very common; it is rather smaller than ours, and on the breast the male of the little American has a broad band of blue.

There are some other native species of kingfishers, a few of which are extremely handsome, but all apparently rare. Two I have seen, though but for an instant, as they flew past me, that might vie with any of our prettiest native birds in beauty of plumage, but I have not observed either of them since. Of the one I could only remark its form, and the beautiful scarlet of a great part of the body; the other, which I cannot confidently place in this family, was not unlike in plumage to the English jay, but the wings presented a broader band of blue,

* The extent of the wings I cannot tell accurately, as this description is taken from a stuffed specimen.

and it seemed otherwise variegated. These vague descriptions must suffice, till we hear further from those more acquainted with our native birds.*

Dacelo Gigantea, (Leach). This bird appears to be the largest of all the kingfisher tribes;† it has been long known in Sydney, from whose early colonists we have adopted the name of the *Laughing jack-ass*, a name as unmeaning as ridiculous. It is thus described by Dr. Leach—"Body olive brown, beneath whitish; tail banded with black and ferruginous, the tip white; upper mandible blackish, under one whitish with a blackish base. Male, with its head slightly crested, the crest fuscous; legs yellow; belly banded with blackish. Female, with the crown of the head brown, without a crest; legs brown." Lesson says that the natives of New South Wales call this bird *cuckunda*.

Without alluding to the latter portion of the English name, that of "laughing" is not quite so inapplicable. There is in fact no sound with which we are acquainted, to which its note may be exactly compared; it is too monotonous for any variety of laughter, and often more resembles the neighing of a horse.

In our verdant October these birds are very common, especially in mountainous parts, where they fly in pairs, and make the woods resound with their notes, as they answer one another from tree to tree: these echoing thrills are taken up by others, and they seem to come as if by the art of ventriloquism from every direction at the same moment. These large birds are now seldom observed near the town; I saw one shot about three years ago at North Adelaide, which enabled me to examine this remarkable kingfisher for the first time.

At the beginning of the present year, I was presented with a young one which had attained its full size, with the exception of the tail. Away from its native woods, and hardly yet conversant in the ways of its kind, its motions were naturally indicative of stupidity, coupled, perhaps, with fear. As it made no effort to get away, except by hops, I gave it its liberty. On approaching the bird it would remain quite motionless, except by just turning its head slowly round, keeping its eyes fixed and dull; raw meat was the only thing it would eat, and that not for some time after it was put before it, in fact, I did not observe it swallow more than one piece while it was watched, this it took up quickly, throwing it down its throat with a jerk and a snap of the bill; it likewise sometimes snatched at a stick when held towards it.

It remained by choice in a corner of the garden for three days with food and water before it, which gradually diminished, but was never touched in our presence; at the end of this time it had taken its de-

* Mr. Gould who will doubtless tell us more about these birds, before the completion of his justly celebrated work *The Birds of Australia* has two disadvantages to contend with; his limited stay in the country for a pursuit of this sort, and therefore necessarily incomplete information on some points, and the chance of his being before the conclusion of his work forestalled by other competent ornithologists, many of whom now resident in the colonies, have turned their attention particularly to this branch of natural history, and are constantly adding new facts to strengthen their previous observations.

† Is *Ispida Gigantea* larger?

parture, and its fate remains doubtful, as I do not think it could fly away.

These birds when full grown are said frequently to kill snakes, but I have never heard whether or not they devour them.

It is not unlikely that *Alcyone Australis* (a native of New Holland) is another indigenous kingfisher.

SIGNS OF THE MONTH—WEATHER.

April—This, our mid-autumn month, has been almost as variable as it usually is in England. Till the middle of the month the weather was extremely changeable, after which mostly fine to the conclusion. From the 19th to the 25th it was almost uninterruptedly so, and often warm—the nights were usually cool throughout. The most stormy day was the 5th, when it rained in torrents, accompanied by boisterous winds. After many of the most beautiful days rainy nights would set in, sometimes attended with wind. The 19th and 30th were two of the finest days we have had this year. Full moon on the 25th.

May—Opened with most beautiful weather, the 1st being a day which would remain in the mother country long unrivalled. We had this month generally speaking more showery, and therefore serviceable weather, than during the last. Rain began on the 6th, continuing with but little cessation till the 12th; this was shortly followed on the 15th by heavy showers, and the days, with the exception of the following one, were cloudy till the 19th, there being stormy weather on the previous day. Almost alternate days of rainy or dull weather and fine nearly to the conclusion of the month, the three last being dry and genial. The evenings though cold were mostly clear. During this month there was no wind of any consequence, except on the 8th and 18th. Full moon on the 24th.

AVES.

May—While the brightest and most luxuriant foliage is beginning to prevail, our park lands are enlivened by many varieties of the smaller birds, who fill the woods with their various and not unmelodious notes. The Torrens, the only streamlet yet flowing, is visited by many of the little songsters, who build among the rushes that line its reedy bed, or on the drooping gum trees that overhang the stream. The parakeets, though principally confined to one small species,* give notice of their numbers while congregating on the trees by their incessant calls to their companions. The tiny robin, with many other feathered favorites, that imitate on their little heads the glow of his breast, are seen flying among the fallen trees in which they have probably built their nests; the former bird is now very common, attending everywhere with his unassuming helpmate, who, as if proud of her lord, hides in the back-ground her less handsome plumage. High on the lofty branches of our tallest gum

* Smallest but two of the short-tailed division. On cheeks and above upper mandible orange mixed with red; crown of head purple; back and wings dark green; tail likewise green, inner half of each feather, except two middle ones, having a pink patch; breast light blue, under shoulders scarlet.

trees, the diamond wren* flits noiselessly about, with whom the little blue-ruffed manakin can alone compete—the bright fitting gems of our forest scenery. But few large birds are seen, the wild bustard seldom approaches the town, and the cockatoos seem to have emigrated far away for a season: some rapacious hawk will occasionally attract our sight, moving on slow wings through the vast expanse of the firmament. The liveliest of all our birds, the wagtail, with its snowy breast and deep black wings, attends on our cattle as they crop the green herbage, to feast on the flies. Wild ducks and other web-footed birds are occasionally seen, as they pass overhead with a whirring noise, in their passage up the Torrens, followed by the sanguine sportsman.

INSECTA.

February to the end of May.—Scarcer every month grow the day-flying beetles, as the winter season approaches, but many small kinds are hid beneath the bark of trees. A few of the common species of the *Cerambycidae* are found in the first month (Feb.), with the purple glossy *Chrysomelidae*. Several species of *Cassididae* are numerous in old buildings, under stercorarious matter, and at the base of trees. Some of the more common *Curculionidae* are often seen with an occasional shining black species of *Carabidae*. No large beetles are now abroad.

With the exception of some small species, the tribes of *Locustidae* had all departed before the end of this month. When the hot season had passed, the smaller *Mantidae* were alone seen. One was found on the 6th of February ovipositing in the mountains; the eggs have much the appearance of those of the *Phasmidae*, but are smaller. In April the last individual of our gigantic *Prisopi* (*Phasmidae*) made its appearance. On the 3rd of May I discovered a very singular species of *Gryllidae*, n. s., in the pupa state, on the base of the hill opposite the Forrester Arms hotel, in the mountains. Length rather more than an inch; tegmina brown with black spots; head grey; abdomen a dark scarlet, with shades of black. Another was shewn to me at the inn, where it had been named by a gentleman who had lately seen it a *locust*: this name, however, was at once disproved by the length of the antennæ, and the four-jointed tarsi. The small cockroaches (*Blattidae*), colors generally yellow and black, are now rather numerous under the bark of fallen and decayed trees.

Of the earwigs, (*Dermaptera*).—Three individuals were found on the 28th of April, in the hot-bed of a garden at North Adelaide: they are doubtless imported species, since nourished by the warmth.

On the 18th of March a singular new species of the *Reduviidae* flew into the room at night: length rather more than three-fifths of an inch; color of body blackish brown, legs and scutellum reddish yellow. Others of the bark-loving genera of the same family, are now (May) alone

* Crown of head and sides of throat black streaked with white, former margined with yellow; throat yellow; back dark brown, growing lighter towards tail, which is tipped with black, with a white margin; wings black and white, with one red spot on primeval ones near shoulder; breast white with shades of brown and yellow.

seen of the field bugs (*Geocoris*). On the 3rd of this month I discovered a very handsome species of *Cercopidae*; tegmina black, with transparent white spots.

The white ants (*Termitidae*) are found abroad in all directions, especially under anything resting on the soil in the park lands. The ant-lion fly (*Myrmeleon*), has been very common this year, and I found the first specimen of its larva on the sea shore, near Marino, on the 2nd of April, in the act of forming its pit among the sand.

The usual number of sand-wasps (*Fossores*), were about till within the last six weeks. On the 20th of March, I saw, for the first time, on the new formed roads near the Torrens, as it settled on the ground for a few minutes, a beautiful *Sphegida* (known, I believe in Sydney), having the body of a dark glistening bronze color, sometimes shining like gold, and the wings of a deep purple; size nearly as large as our largest sand wasps.

The common species of ants (*Formicidae*), are always about on the fine days, diligently employed. The only ichneumon-fly (*Ichneumonidae*) I have captured since the warm weather, was a new and singular species, with the ovipositor two inches in length; longer than of any I have yet seen in the colony; length of the insect three-fifths of an inch, and jet black. It flew into the room early in the morning.

The largest *Bombycidae* though common have not been quite so much so as they were last year, and the females appear to have been much the most numerous; they prevailed through the months of April and May, and many were found dead at the end of the latter month. A few of the *Arctidae* have been common, the most so perhaps had the wings white, with a stripe on each extending from the base to the apex, composed of yellow and black spots. At the beginning of April a small species of *Geometridae* (rather an uncommon family here) frequented the sea shore; color of wings dingy red, upper ones darkest. All the usual species of butterflies (*Diurna*) with one or two rare ones, I observed in great numbers on the mountains, till the beginning of the present month. Our best known species in general (*Cynthia cardui*) is now seldom observed, but on a fine day the *Hipparchia* still flit about. In the month of April I noticed many small companies of the lesser Argus, (extent of wings three inches) flying about the native cherry and low gum trees on the road to Holdfast Bay.

DIPTERA.—Of this order I have not yet given any account under the present head. October, 1841, to the end of the year. In the beginning of Oct. many species of *Muscidae*, some of large size, frequented the park lands and woodlands; these, with the small *Asilidae*, of which there are several species, were the most common of all the two-winged flies, to the end of the month. On the 2nd of Nov. I first saw and caught a species of the true gad-fly (*Tabanus*, L.), on the road between Willunga and Encounter Bay, which often settled on the horses, but without doing them any injury; this species I have since seen in various other, but always sandy situations. On the 8th of Dec. I received the largest of our dipterous insects (of fam. *Asilidae*); length, an inch and a half, of extended wings three inches; colors,

of head, thorax, and legs black; of abdomen a dark orange; this is perhaps the largest insect of this order in the world; I caught several more before the end of the month. One species of *Syrphidae* was not uncommon on the 24th, near the Torrens. Saw also at the same place, several of the largest of our *Muscidae* for the first time: length four-fifths of an inch, color a deep metallic blue: they make a loud buzzing noise, which is heard several hundred feet off; I have never seen them since the above day.

JAN., 1842.—To the end of May.—Our large orange colored *Asilidae* were very common the first two months. On the 15th of Mar. I caught a singular species of *Musca* (L.), length seven-tenths of an inch; colors, blueish white with black patches, all the darker parts beset with stiff black spines. The different species of blow-flies, among them *M. Caesar*, which varies in color from metallic blue to green, were numerous till the month of April. Small *Muscidae* (our most common family) seem constantly to increase in number of discovered species.

NATURE AMATOR.

June, 1842.

 THE IDEALIST.

Awake, awake, my slumbering soul,
Ambition, duty bids thee to awake;
Shake off thy self-imposed control,
Thy viewless fetters break.

The world's before thee great and wide,
Its sons are noble, daughters fair,
Launch forth thy bark upon its tide,
And earn renown and glory there.

Thy compeers round thee gladly run
Through varied paths of pleasure,
And e'en with ease have quickly won
Thy fondest, dearest treasure.

Then up my soul, why sleepest thou?
Life's day on thee is dawning,
Arouse thee, and, with manly brow,
Bid welcome to its morning.

What! art thou dead to duties void?
And wilt thou all the world forsake?
And can no pleasure thee rejoice?
Awake my slumbering soul, awake!

Ah, no, if waking season shews,
My hopes all faded, pleasures gone,
Oh! sink once more into repose,
My soul, my wearied soul, sleep on.

Adelaide, March 14th.

PROFESSOR BLACKIE ON CLASSICAL EDUCATION.

NOTICE THE SECOND.

WE return with good will to our friend Mr. Blackie.

In what follows, it will not be supposed that we are actuated by feelings partial or hostile to any particular country. Educational questions are too sacred to be sported with for transient purposes. But it is well, that the institutions or systems of one country should be compared and contrasted with those of others, in order that, by adopting whatever is excellent, and rejecting whatever is deficient, all civilised countries may reciprocally aid in perfecting the training of youth. Removed as we now are from the sphere and influence of local prejudice, and in the midst of a society where mere nationality on such subjects would be extreme foolishness, but where, perhaps, the best opportunities are presented of testing the effects on after manhood of early systems of training, we would calmly and dispassionately consider such questions simply as illustrative of a great moral experiment.

“University reform” has lately been much discussed, and a wide induction of systems has been brought to bear on it. The defects of the English universities, as well as the relative defects and advantages of other great seminaries, have, we think, been nowhere better elucidated than in the papers of the Edinburgh Review, attributed to the erudition of SIR WILLIAM HAMILTON. From induction, it would not be difficult to construct an *ideal* course of training, as near perfection, as the imperfectibility of all human institutions may permit.

THE ENGLISH UNIVERSITIES regard too exclusively the immediate attainments of scholarship. At OXFORD, the classics—at CAMBRIDGE, the mathematics—are the *summum bonum* towards which all the ambition and industry of students are incited, and are the only avenues to academic honors and distinctions. There the “reading men”—

“First in the race that leads to glory’s goal”—

are grouped around their plodding preceptors, in secluded study—to the almost total neglect of comprehensive acquirements, and forsaking the good old academical organ of instruction—the professorial chair.

In the SCOTTISH UNIVERSITIES, again, the lecture is everything. We speak of course only of what is strictly collegiate, because in EDINBURGH itself, every educational advantage may be secured with judicious selection and guidance. But, at college, the students flock to hear the Professor in public. From listening an hour to learning and eloquence on one high subject, they plunge into another, perhaps widely different—and the day is a succession of countervailing excitements. The mental stimulus is good, with intellects of power to inwardly digest the precious materials of knowledge. But, with the mass, it is mere dizziness—ordinary minds, lost in the splendid labyrinth of thought, and left without guidance, hopeless of mastering all, relax in the fruitless pursuit, and perhaps abandon it. In the attempt to compass information, they have wasted their own acquisitive powers.

The system of JARDINE indeed, (brilliant with results) had regard