

THE

# SOUTH AUSTRALIAN MAGAZINE.

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NOTES ON THE NATURAL HISTORY OF SOUTH  
AUSTRALIA—No. III.

ENTOMOLOGICAL MEMORANDA.

**HYBERNATION of Insects—No. 1.** This is the title of one of the numerous heads into which Kirby and Spence divide their well-known work, "An introduction to Entomology." Speaking as it does principally of the habits and economy of insects in countries having a much longer and severer period for their winter months, it affords many singular facts and interesting particulars of the attitudes and defences of these little creatures during this period of torpidity.

Owing to the influence of our milder climate and short winter season, a season more remarkable for its refreshing showers, than the cold often experienced at this time in other warm countries—there are comparatively but few points of great dissimilarity in the existence of our native insects at any time of the year. Some tribes do nevertheless pass a certain period in this death-like repose, with a few extended to several months, during which time they appear in general to be undisturbed by any change of weather, even if, as is generally the case, we have weeks so unclouded and genial, that they would be hailed with delight in our mother isle even during its season of flowers\*

I will some other time speak of the different tribes of insects passing this season in a dormant and inactive state, and confine myself now to a singular instance of the habits of one species under the control of this benumbing power. The insects in consideration are our largest

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\* There are usually some cold days in every month, while our most beautiful weather often occurs between the intervals of the winter rains.

and also most brilliant species of bees (Apidae.) These fine insects are in length little less than one inch, and between the expanded wings not quite an inch and a-half, with the body very bulky, limbs thick, and the posterior tibiae covered with down. The color of both the upper and under surface of this species is a brilliant green most remarkable in the former, highly polished and lustrous, and as smooth and shining as the elytra of the most brilliant beetles; this extends also to the femora or second joints of the legs. There is but one other species of this large family of insects that can be for a moment mistaken for this (all the rest being smaller, and but few possessing brilliant or metallic colors), and that only during flight, from its similarity in size. On examination, however, it will hardly be found to agree with the former in the slightest particular, and may at once be known by having only the abdomen glossed with this lustrous hue, which is generally of a more yellowish or golden tint. The other numerous points that distinguish these conspicuous insects from each other (many of which are very striking), it is therefore unnecessary to mention in this place. It is only of the first described and handsomest species that I have now to speak.

On the 27th of last July, four-and-twenty of these insects were brought to me, all found in a rotten and decayed log of wood—and this being our midwinter month—in a perfectly torpid state, though the day was mild. They were discovered altogether, and, as it were, packed as closely as possible, apparently to facilitate warmth: they formed two lines of bees in two separate grooves running along the centre of the log, with a small ridge between them; but the most singular circumstance was the way in which these insects had arranged themselves; first came two bees side by side, then one lay across or lengthways, touching with its head and tail (apex of abdomen) those on each side of it; then followed two more in the usual way, and another single one crossways, and so to the end of the groove. This was the case with both lines; each bee so closely pressed its neighbour, that they must have communicated to each other a great degree of warmth. The bees in the separate channels did not meet, being separated by the ridge.

As I received them soon after they were found, with the piece of wood from which they had been taken, I observed that these channels were as smooth as if formed by a chisel, without any dust or particles of wood, and of a moderate length and sufficient width to accommodate comfortably their late occupiers; but the log was so rotten and decayed that I could not see by which end or opening they had entered. They were all females! and as I before remarked, quite torpid and inert at first, and unable to move their limbs. They did not at all

attempt to sting. Certainly their late admirable concealment was very necessary for their preservation during the season of repose, as they would not have been a match for any of their enemies in this defenceless state.

I put them altogether, thinking that as they were quiet enough before, they would now at least not disagree,\* but being once disturbed, and also perhaps from feeling the warmth of the outer air they were not inclined again to settle. After moving their legs they began to set their wings in motion, and the buzzing of one soon excited others to follow its example, the noise and agitation every minute increased, till the whole of this Amazonian band presented nothing but confusion and apparent angry discord. They did not, however, appear at any time to use their wings in flight, for which they seem to require the direct influence of the sun, and the casting away of all superfluous moisture.

It was remarkable that during this time they exhaled a strong smell of honey, which continued in this scene of their disputes long after I had removed them, from a store no doubt secreted by them, if not to be actually fed upon, at any rate to preserve their existence during their "dreamy days," as is the case with the smaller hibernating Rodentia (Mammalia), who, though often quite fat when entering on this dormant period, absorb all this extraneous moisture or nourishment, and rise up both able and willing to replenish their strengthened but diminished frames.

The above facts of the position of these Apidæ in the log of wood, the only circumstance that I did not myself witness, may be fully relied on, however incredible it may appear to some. We cannot at present account for the proceedings of these bees, for some of which a reason may never be found. We are, however, inclined to ask,—Do they always place themselves thus when hibernating in society? and are they always all females? or is this a singular combination of chances which may never happen again, however well known the habits of these insects may become in future times by our colonial entomologists; albeit, a certain end may be answered, and in its completion, another material point effected in a perfect system, by the operations and wonderful instincts of these heaven-taught little beings.

Besides the above individuals, I have many others of both the species before described, but found singly and at different times under logs of wood, from which they had apparently fallen, having taken up their abode as it would seem separately in the logs. These were found during the winter months, and were likewise all females! I have seen

\*Though I might have remembered, it was quite impossible that in the company of four and twenty females there could be silence for a moment.

but one male insect of this species, during summer, and never taken any. The sting of this species, though long, is (I am inclined to believe) not powerful, nor inserted into a disturber of its repose or pleasures by its angry possessor with any great degree of strength, from whom, when dead, this weapon can be easily extracted.

These beautiful bees fly slowly, but seem to delight in the full sunshine; at this time they look like brilliant gems, the sun glowing on their highly polished coats of mail with a beautiful and almost dazzling play of colour. They are fond of frequenting the larger flowers, to one of which they may sometimes be seen clinging for some time, while they sluggishly lick up with their long tongues the deeply seated nectar, though without much disturbing the delicate petals. As they seem to be solitary bees, their slow and lazy habits signify not but to themselves, unlike the busy hive bee, always working for the general good of a community—the attendant on our out of door pleasures—the friend of the horticulturist—the delight of old and young—a useful native of every clime.\*

It is yet uncertain when our largest smaragdine† species comes forth from its winter retreat, though I should not suppose till the latter end of September, and it may be seen occasionally during the summer, though seldom in company. Of the economy and habitations of these insects during this time I at present know nothing, and I have only seen them on the wing, with the exception of finding two individuals at different times early in the morning, in old fences; a temporary but chosen dormitory for the previous night.

These circumstances, so far as they go, prove them to be solitary bees, which makes it more extraordinary that their instincts should direct them to congregate during the winter months, though in what way, this singular instance must not be taken as a general rule.

#### OUR NATIVE BIRDS—NO. I.

Under this simple title I intend to give, occasionally, short notices and anecdotes of the more remarkable of our little feathered songsters. I shall enter into no technicalities, speaking but generally of their form, size, and color, just so far as is necessary to enable them to be recognised, and more particularly of the habits of this interesting class of the winged creation.

The Wagtail.—I have applied this denomination to a bird very similar to its namesake, so well known in England. In length, our native songster is eight inches, measuring from the point of the beak

\* There is very little doubt that the common bee (*Apis mellifica*) is now well known in every country.

† The lustre of the emerald.

which is rather more than half an inch long, black, and slightly curved downwards; the head is purple black, its feathers forming a small crest, which can be raised by the bird at pleasure; back, dark slate color; tail, plain black, and wings inclining to brown. The throat, belly, and vent are a pure white; feet and claws of a moderate length, and the legs also black. It is an insectivorous bird, and seemingly a general hunter of all those lesser winged tribes that rove through the element in which it delights to sport.

This bird, which is at times remarkably common, is seldom found alone, especially at that season of the year when it frequents our park-like lands, and its cheerful note is heard in the evergreen foliage of the gum trees. On one of these, adjacent to some streamlet,—though they are not always found in the neighbourhood of water—several of these birds will then be seen flitting among the branches, and always in motion: this is probably at pairing time. At others, when unmated and left to follow the bent of its sole inclinations, its habits are sometimes remarkably singular. It may now often be seen on the ground, amusing itself in a variety of vagaries. It is fond of display, though probably caring but little whether or not it has any observer of its motions. It runs with short jerking flights, or struts along, at intervals, spreading its fan-like tail, or sails round with it thus expanded, waving it in every direction, like a weathercock.

It is, as a sportsman would say (substantially), almost all feathers, and nearly as light as one; it seems to take an infinitude of trouble to accomplish any point, though all its motions are performed with grace and ease. Presently it starts from the ground, and hovering over some particular spot, a few feet from the surface, with a regular rise and fall of the body, it utters a mechanical running or clock-work note, which fancy may compare to a winged spirit performing an incantation. These spots, thus apparently marked by this singular bird, are not so in reality, for after one of these ceremonies is completed, it often, without first alighting, flies into a neighbouring tree, or to a short distance further on. It is a very tame bird, and will occasionally allow itself to be approached to within a few feet. It is fond of attending our cattle while slowly cropping the luxurious herbage, catching the flies in every direction, and keeping its tail in constant motion, much relieving the patient animals, who are doubtless pleased with the assiduity of their little benefactor, who also thus obtains a plentiful meal.

There is a singular circumstance connected with the great fondness of these birds for the flies, perhaps the more teasing portion of their tribe (*Stomoxys*). A pair of these lively birds built in, or, at any rate, frequented, for many days, a particular gum tree, not far from

the river's edge. This tree I passed every day, with an attendant dog, for some weeks. All the time they kept to this spot: on the approach of my four-footed companion they would daily descend, and hover over it, with many a turn and round, snapping at the flies which settled on its back in constant succession. They accompanied us thus for many hundred yards, till we had attained a distance which they seemed to think rather too far from their old haunt, so they hastened back. The dog seemed to care very little for either, only sometimes turning half round with a surprised look, as if astonished at the boldness of their proceedings, though generally jogging steadily on.

In the month of October these birds are very numerous, especially near the shrub-covered banks of the murmuring Torrens. Here considerable amusement may be derived by watching them while in chase of their favorite food. Perhaps one of the beetle tribe attracts them, a slow flier, but who can turn and double if occasion be. Up starts one of the birds and sets off in pursuit, flying three times as quickly as the more sober insect; she overtakes it presently, but stops short of her mark, apparently tampering with it and her appetite as a cat does with a mouse; then flying round it she is seen now above, now below, and occasionally with closed wings and tail spread. If the insect were not perceived, it would puzzle any one for the moment to account for these singular attitudes; let the hunted beetle turn quickly in another direction, she is in an instant at its side, again performing her various genuflexions, and taking apparently a world of trouble with very little occasion, till she has probably tired herself out, then making a final snap she seizes her prize and bears it to a neighbouring tree, there to enjoy the fruits of her assiduity.

#### SIGNS OF THE MONTH.

**COLEOPTERA.** North Adelaide, Park Lands,—Dec. 6th—A small species of that singular and (here) rare tribe *Heteromera*—jet black. A third species of *Rhina* (*Curculionidae*) and some new species of the Longicornes.

Dec. 12th—A species of the *Buprestidae* n.s. principal color dingy red, length nearly an inch and a-half—found dead on the ground.

Dec. 18th—Found our largest species of *Cucujus* (L.) It is now not common.

Dec. 21st—Another species, n.s. of *Buprestidae* (belonging to this family, though apparently standing on the verge of the allied soft winged genera)—a shining black, length just one inch. The first (I have) seen this summer of our common cockchaffer\* (*Melolontha*).

\* Evidently not a member of the temperance society, for on entering a room in the evening it flew at once (openly) into a tumbler of brandy and water.

Dec. 24th—Our commonest species of *Gyrinidae* in hundreds on the river. A new species of *Cleridae* under bark of trees; color, dark brown, length, nearly an inch.

ORTHOPTERA. Locality, everywhere. Dec. 2—A handsome species *Achetidae*; length of wings transversely, three inches; color bright green.

Dec. 12th to 24th—The whole country covered with numerous species of our *Locustidae*, from very minute species to those of four inches in expanse of wings—now all imagines; wings often beautifully variegated. *Truxalides* common; a few larvæ at the beginning of the month still left, but towards the end most in the pupa state.—Several species of the more common *Gryllidae*.

HEMIPTERA. Woodlands, near river, South Adelaide. Dec. 11th—A new species of the *Fulgoridae* color, light brown, length, rather more than an inch.

Dec. 24th—A species of *Reduviidae* n.s. color light red, thorax spined. In river; larva of one of the *Hydrocorisa*, small. A fine species of water scorpion (*Nepidae*); entire length, including anal appendage, two inches.

NEUROPTERA. Our streams and adjacent lands. Dec. 2 to 24th—A great many small but beautiful species of *Agrionidae* of every color, both males and females.

Dec. 30th—A very minute species of *Ephemera* (L.) n.s. very plentiful this morning over gardens, and base of hills near the town.

HYMENOPTERA. Among reeds near Torrens. Dec. 15th—*Evaniidae*; a handsome red species of this curious family flying over the holes formed by sand-wasps

Dec. 24th—Largest species but one of *Pompilidae*, n.s. red with black bands. Several small species of *Mutillidae* principally females. Many variegated species of sand-wasps both this and the previous month, of moderate size, of nearly all the Fossorial families of Latreille; also of *Diptera*.

LEPIDOPTERA.—*Diurna*, in all situations. October. The small argus *Papilio* and beautiful blue *Polyommatus*.

Nov.—Our small *Cynthia cardui* (painted lady) common, and a bronze-coloured species of *Hipparchia*.

Dec.—The last mentioned insect very numerous; also, several other species of the genus, and of the *Polyommata*; the *Papilio metinatrus* likewise about.

*Sphinxidae*—The second species (I have) seen here; found on road to Kensington, towards the mountains. *G. Deilephila*, apparently smaller than *D. Rosea*, color light brownish pink.

Nocturna. Oct.—On trees, at rest by day. A variety of tufted-

tailed *Arctiidae*. In the evenings the smaller nocturnal moths very common.

Nov.—A few of the well known *Geometridæ*; also some scarce ones of this family, and of the smaller *Bombycidae*.

Dec. 8th—A large species of the *Bombycidae*; expanse of wings more than six inches, color light grey; several found dead on Park Lands, near South Adelaide.

Dec. 30—A very beautiful small green species of *Geometridæ*.

DIPTERA—(See next number.)

NATURE AMATOR.

January, 1842.

#### MATRONS, NOT MISSES.

Know ye the place where young matrons, not misses,  
Are followed and waltz'd with at party and ball,  
The tender glance aim'd at, *soft* pressures, *not* kisses,  
And maidens, fair maidens, scarce heeded at all?

Know ye the place where licentious arms twine  
Round the waist of the matron; the husband supine,  
Complacently viewing her honor and his,  
At a discount express'd by some quizzical phiz,  
Where piano and fiddle, and soft breathing flute,  
And the whisp'ring deceivers voice never are mute;  
Where verandah and garden—ah! sweet the retreat  
They afford from the light, observation, and heat—  
Are sought by the pair who have whirl'd and danc'd,  
Till passion is master and conscience entranc'd;  
Where a mother already, or one soon to be,  
Disregarding her vows, and nature's decree,  
To a fop or a fool madly yields her chaste name,  
O'erlooking what follows—reproach, scorn, and shame?

Woe! woe! to the land where such manners dare reign,  
Nor virtue, nor true love, have there aught to gain.

Adelaide, Jan. 1842.



## THE SOUTH AUSTRALIAN PULPIT—No. I.

Talk they of morals, oh! thou bleeding love,  
Thou maker of new morals to mankind,  
The great morality is love of thee.

YOUNG.

A HISTORY of the PULPIT, in all ages, and under all circumstances, if properly executed, would form a volume as useful in itself, as it would be both curious and entertaining to the general reader.

“BOOKS of the DENOMINATIONS”—“SKETCHES of the CHRISTIAN RELIGION”—and “VIEWS of all RELIGIONS”—exist in great abundance, but in no one instance has an attempt been made to lead us into the enchanting path of surveying the PULPIT in all ages, and in all countries, except indeed, it be in Robert Robinson’s “Brief Dissertation on Public Preaching,” prefixed to the second volume of his translation of Claude.

To the production of such a volume, two things are especially necessary—an intimate acquaintance with the records of the past—and a careful collation of such opinions upon the PULPIT in different countries, as may serve to give us a just notion of its present state and condition. The first of these pre-requisites can easily be obtained by poring over books and manuscripts in different languages, and, to a man of the right sort, the pleasures of such a task would amply repay the necessary labour and exertion. The second of these, however, can only be supplied by the joint exertions of those at present residing in different parts of the globe, each one possessing sufficient interest in the appearance of such a work being called upon to contribute his mite towards its execution. As a means of facilitating this object, but without any very assured hope of its early accomplishment, an attempt will be made in these brief sketches of the SOUTH AUSTRALIAN PULPIT, to direct one of the little rills of this interesting subject into that greater stream, out of which, it is hoped, the materials may ultimately be drawn for the compilation of such a volume.

As at home, so in South Australia, the religious denominations are numerous, and the PULPIT will consequently be presented under a variety of aspects. The Episcopalian, the Presbyterian, the German Lutheran, the Methodist, the Independent, the Baptist, the Moravian, the Roman Catholic, the Unitarian, the Separatist, the Jew, and others, are all vegetating in a colony as yet but five years old, and will each require a brief and separate notice. The bare allusion to such a diversity of opinions, suggests a train of remarks, which it may be better, perhaps, to use as preliminaries, than to mix up with the body of the sketches themselves.

And first, it is a singular fact, that, in the returns of the church and chapel-going people of South Australia, the relative proportions bear a close analogy to the state of things in England. In point of numbers, assembled for public worship, at any given time on the Lord’s-day, the Methodists, including their out-stations, are, perhaps, to be placed at the head of the list. The Episcopalians, however,

follow close upon their heels in point of attendance, but are composed of a different class of persons, and exceed them perhaps in point of actual numbers. The Independents, the Baptists, and and the Society of Friends, bear about the same relative proportions here to the great mass of the population as they do at home, but for the Presbyterians and Lutherans, an exception must be taken, on account of emigration from Scotland and Germany, and for the Roman Catholics, latterly, perhaps, on account of increased emigration from Ireland.

Another point deserving of remark is, the general unanimity which prevails among the different denominations of Christians in South Australia, and more especially in reference to what may be considered the fundamental doctrines of revealed religion. In the SOUTH AUSTRALIAN PULPIT, evangelical sentiment alone would be tolerated, either by Episcopalians, Presbyterians, or Protestant Dissenters. The consequence is, that we have not, at the present moment; a single minister, connected with either of these denominations, who does not steadfastly maintain the doctrine of a sinner's justification by faith, and uniformly hold forth the finished work of Christ as the only ground of a sinner's hope. To an approval of this style of preaching, exceptions are doubtless taken, but these are far from common. Surveying the christian religion, as it came out of the hands of its divine author, the great mass of the people are led to exclaim—*Behold it is very good!*—and to any ignorant pretender, who should presume to alter it, they would be ready to say—*Who is this that darkeneth counsel by words without knowledge?* Unanimity on such points, and especially in so young a community, is the surest guarantee of that moral principle which ever forms the basis of a people's prosperity.

But a third and last point deserving of notice is, the efforts, which have been made, in connexion with the pulpit in South Australia, to give full and free play, with one solitary exception, to what is now pretty generally known as the VOLUNTARY PRINCIPLE in religion. The exception to which we refer is that of the Rev. Charles Beaumont Howard, the Colonial Chaplain, for whom provision is made by the colonial government, according to the terms of the act by which the province of South Australia was established. In this respect, South Australia differs from the other dependencies of the British crown, provision being made in all other colonies upon an extensive scale for the support of such denominations of christians as are willing to receive aid from the State. In New South Wales and Van Diemen's Land, for instance, the aid of the colonial government is alike extended to Episcopalians, Presbyterians, and Roman Catholics. As a proof of the extent to which the patronage of the colonial government is afforded in New South Wales to the Episcopal church, it may be observed, that, at the visitation of the Bishop of Australia in Oct. last, the names of forty-eight clergymen were called over, as belonging to that colony, the greater part, if not the whole of whom, it is to be presumed, are supported out of the fards of the colonial treasury. The Bishop of Australia claims a jurisdiction over the whole of the Australian colonies—Swan River and South Australia included—