

DEEDS OF THE INSECT WORLD.

BY R. K. DUNCAN.

The commonest objects of nature have been investigated by the light of modern science, with charms unknown to, or appreciated by, the great mass of humanity. In the struggle for wealth or power few men have realized that these objects are being governed by a system of laws, vast, grand, harmonious, the universe, from the upper height, to the lowest depth, yet omitting not the smallest iota, the tiniest atom, under their sway, no department of natural science so fully illustrates these marvellous laws as the class of insects. (In the estimation of earnest students of nature, this class occupies a very prominent position in that wonderful book of nature which is, as the great Lord Bacon said, "Vox Dei in rebus reata.") The word God revealed in facts, because none so clearly shows the usefulness and injury to man or clearly shows the working of that God to whom "all that live and move and have their being" owe their existence.) It is time that our people in general, and especially the younger portion, were being acquainted with a class of beings surrounding us day and night, furnishing us with amusement, food, clothing, coloring substances, and medicines, that they may be able to distinguish the useful from the injurious, the harmless from the noxious, and to cover those which may furnish new articles for manufactures, commerce and domestic industry. Their real benefit or injury has been discovered, after indefatigable researches and observation, by the Entomologist, who has detected man against them, or them against man. It was the Entomologist who discovered their abodes, character, and duration of life. It was he who taught mankind that they can be made of those which are beneficial, and the only certain methods of preventing the baleful ravages of those which are noxious. It is for this purpose that even the smallest insects that live are collected, preserved with unwearied patience and care. The immortal Reaumur established upon his estates nurseries for insects which he employed as servants for attending, but which he himself might and day. The result of his observations is a work published in Paris called "Memoires des Insectes," which is useful and curious information. General Count Dejean, an aide-de-camp to Napoleon Bonaparte, was an enthusiastic entomologist, who even availed himself of military campaigns as expeditions for "bug-hunting." He was continually collecting and fastening them with pins to his hat which he constantly covered with them. Napoleon and all his army at last grew accustomed to seeing his hat thus singularly ornamented, even in battle. But the fruits of these departed insects had their revenge at last, for at the battle of Wagram, 1809, he was precipitated senseless in his saddle by a cannon shot. Upon recovering a little, and being asked by Napoleon if he were dead, he exclaimed, "No, I am alive, but alas! alas! my insects are gone," and indeed they were, for his hat is literally torn to pieces. Another lover of nature was Madame Maria Miller de Merian, who at the age of fifty set out for equatorial America, where she proved her passionate devotion to the study of insects by hazarding her life, with a guide, among the swampy plains and trailing valleys of Guiana. As she was an artist and an experienced engraver, she published several works, filled with plates representing insect life, which were destined to inaugurate the introduction of art into natural history. Each plate is a drama in itself; near the insect, is seen the greedy lizard bending its dreadful mouth, or the ferocious spider waiting for it. The short life of insects is here shown in its entirety, with its continual struggles, infinite artifices, its pit end, and all the episodes of an existence for which life, as in the case of man, is at a long and painful struggle. This heroic and industrious female naturalist, who contributed so much to the advancement of natural history of insects died at the ripe old age of seventy-two in 1707. Let women, let young girls who are martyrs to the emu of a life devoid of occupation peruse her beautiful books, and learn from them how much a woman may do with the time which is now either uncoccupied or devoted to useless employments. To study nature in any of its phases, ought, it seems to me, to give more satisfaction to the soul, more strength to the mind, and cause more admiration, and gratitude to the Author of nature, than doing a little crazy-patchwork or indulging in that intellectual pursuit of gossiping. Insects are divided, according to the classification of the old authors, into nine distinct orders; of these we shall have time to take but two, viz., Coleoptera, or Beetles; and Lepidoptera, or Butterflies and Moths. We shall commence by examining the COLEOPTERA. In most collections of insects the Coleoptera seem nearly always to occupy the first place, because of their bright colors, their agility and the facility with which they can be preserved. Beetles undergo a perfect transformation or metamorphosis. From the egg proceeds a soft-bodied grub or maggot (larva) whose only occupation seems to be like that of children in eating and growing, which it does to perfection; but after time (in some cases three years) this ceases, and it changes into a cocoon covered with a thin transparent skin, where, during a long sleep, it changes, and bursts forth at last with glistening wings to appear a respectable object in the fashionable world of insects. They are divided into three distinct classes, the Carnivorous, Scavenger and Herbivorous. The Carnivorous beetles are those which prey upon other insects. They are of the greatest possible use to man, and afford a constant evidence of Nature's gracious law of compensation, the one undoing what the other does, the injuries which one species would inflict upon man are checked by the carnivorous species, which prevent their superabundance and keep an even balance in the scale of being. Carnivorous insects par excellence—those which are most formidable on account of their voracity—are the Carabidae. This family, which is the most numerous of land Coleoptera, consists of beetles provided with long legs, and armed with powerful mandibles suitable for the purpose of tearing their victims to pieces. They are the lions and tigers among insects. It is a fortunate circumstance that these Carabidae are very numerous as they destroy an immense number of small noxious creatures, such as, weevils, caterpillars, etc., which are the pests of agriculture. The prejudice that leads ignorant farmers to exterminate them is much to be regretted. They should be protected and introduced in the same manner as toads in our gardens, or cats in our granaries. The experiment has been very successfully tried in France and there is no reason why it should not be as successful here as there. M. Michelet says that "the Carabidae,—immense tribes of warriors, armed to the teeth, which under their heavy cuirasses have a wonderful activity—are a perfect rural constabulary, day and night, without holidays or repose, protecting our fields. They never touch the smallest thing; they are occupied entirely in arresting thieves, and they desire no salary but the body of the thief. Among these beetles of prey we might mention the handsome caterpillar-hunter, which may be seen morning and evening running along the branches, seeking for their prey. The Dystici or sharks, as they are often called, are large water-beetles, feeding altogether upon aquatic insects. MITCHELL, Ont.

VARIETIES.

A grand dinner in China includes a vast number of courses. Eighteen or twenty would be respectable, but the number may reach two hundred. This year is the fourth centenary of the establishment of the British Navy, the first English man-of-war, the Great Harry, having been launched in the year 1487, being the second year of Henry VII. The fashion in France of hanging beads on tombs has almost done away with the use of everlasting flowers, which was formerly so general. The beads last longer even than the flowers that are named immortelles, and this is their chief recommendation. The cravat got its name from the Croats, a regiment of whom, all throttled in cravats, arrived in Paris in 1600, and set the new fashion in neck-swathings. When Beau Brummel assumed the guardianship of fashion in this country, it was not considered fitting that a gentleman should travel with fewer than eighty cravats and an iron for smothering them. There are five qualities of meerschaum used in the making of pipes. The best is known by its facile absorption of the nicotine juice of tobacco, which gradually develops into a rich brown bluish upon the surface, and when this process is well advanced the pipe becomes almost invulnerable with out being hard. A specimen of this kind has been sold at Vienna for fifty pounds, although it was not very highly carved. The Pharmaceutische Rundschau gives this recipe for an excellent disinfectant. Four pounds of crude sulphate of iron, or two pounds of sulphate of copper, are dissolved in hot water, to which two ounces of sulphuric acid are added. Mix with the solution, while still hot, eight ounces of carbolic acid, filter, and put into bottles. When this powerful remedy cannot be applied in its fluid state, dry saw-dust thoroughly moistened with it may be scattered over the floor of the places to be disinfected. Electricity has in its time played many parts, but to apply it to a conductor's baton has at any rate the superior merit of novelty. After the recent maneuvers of the German army, a serenade was given in honour of the emperor, and twelve hundred executioners took part. It was pitch dark, and of course quite impossible for the bandmen to see the conductor's baton. But science suggested an accumulator on the music desk connected with a poorly-covered wire secured along the conductor's stick, from the tip of which there shone a tiny electric light. Black, gray, red, amber, purple, salmon, dove-coloured, and speckly-white marbles exist in various parts of Ireland, and might be worked with profit if transport facilities existed and skilled masons could be found. The best black marble in the world is found on the shore of Lough Corrib. Galway serpentine has long been famous. A peculiarly beautiful variegated reddish marble exists in Armagh; another handsome marble has been largely worked at Churchtown and Little Island, county Cork; while in Kilkenny there are also marble quarries. There is not much white marble in Ireland of any quality; but the coloured marbles are admirably suited for the internal decoration of buildings. The milk-cart is not much used in Mexico but in place of it the Mexicans drive the cow into town and milk her where the market for milk is best. The scene at the lecheria or milking place is a peculiar one indeed. The calf is driven in with the cow, and after it has coaxed the milk down, it is tied to the cow's neck, after which her hind-feet and tail are securely tied together so that switching, kicking, or running away is impossible. Don Jesus—pronounced "hasus"—begins to milk, while all the senioritas are at his elbow, demanding their supply first, and that in the sweetest and most persuasive language that mistresses and maids are accustomed to use. Though peculiar, this system has its merits, inasmuch as the article vended is entirely free from extraneous mixtures of water and chalk. Goats and donkeys are also milked.

Microscopic Possibilities.

Perhaps the most wonderful thing that has been discovered of late is the new glass which has just been made in Sweden, differing from ordinary glass in its extraordinary refractive power. Our common glass contains only six substances, while this Swedish glass consists of fourteen, the most important elements being phosphorus and boron, which are not found in any other glass. The revolution which this new refractor is destined to make is almost inconceivable, if it is true, as is positively alleged, that, while the highest power of an old-fashioned microscope lens reveals only the one-fourth hundred thousandth part of an inch, this new glass will enable us to distinguish one two hundred and four million seven hundred thousandth part of an inch. It makes one's hand ache to write these figures; and who can tell what worlds within worlds may not be discovered with such an instrument as this? Magnified after this fashion, the smallest animalcule will be converted into a giant, and if the same refracting power can be applied to the telescope we shall have the moon brought to our very doors. If a man be faithful to truth, truth will be faithful to him. He need have no fears. His success is a question of time.

TALMAGE'S FIRST CIGAR.

The Reverend Doctor describes a Not Uncommon Experience. The time had come in my boyhood which I thought denoted me a capacity to smoke. The old people of the household could abide neither the sight nor the smell of the Virginia. When ministers came there, not by positive injunction, but by a sort of instinct as to what would be safest, they whiffed their pipe on the back steps. If the house could not stand sanctified smoke, it may be imagined how little chance there was for adolescent cigar-puffing. By some rare good fortune which put in my hands three cents, I found access to a tobacco store. As the lid of the long narrow, fragrant box opened, and for the first time I owned a cigar, my feelings of elation, manliness, superiority and anticipation canoeably be imagined, save by those who have had the same sensation. When I put the cigar to my lips and stuck the lucifer match to the end of the weed, and commenced to pull with an energy that brought every facial muscle to its utmost tension, my satisfaction with this world was so great my temptation was never to want to leave it. The cigar did not burn well. It required an amount of suction that taxed my determination to the utmost. You see that my worldly means had limited me to a quality that cost only three cents. But I had been taught that nothing great was accomplished without effort, and so I pulled away. Indeed I had heard my older brothers in their Latin lesson say, omnia vincit labor; which translated means, if you want to make anything go you must scratch for it. With these sentiments I passed down the village street and out toward my country home. My head did not feel exactly right, and the street began to rock from side to side so that it became rather uncertain to me which side of the street I was on. So I crossed over, but found myself on the same side that I was on before I crossed over. Indeed I imagined that I was on both sides at the same time, and several fast teams were driving between. I met another boy, who asked me why I looked so pale, and I told him that I did not look pale, but that he was pale himself. After some further walking, I sat down under the bridge near my house and began to reflect on the prospect of early decease, and on the uncertainty of all earthly expectations. I had determined to smoke the cigar all up, and thus get the full worth of my money, but was finally obliged to throw three-fourths of it away. I know, however, exactly where I threw it, in case I should feel better the next day. Getting home, the old people were frightened, and demanded of me an explanation as to my absence and the rather whitish color of my complexion. Not feeling that I was called to go into particulars, and not wishing to increase my parents' apprehension that I was going to turn out badly, I summed up the case with the statement that I felt miserable at the pit of the stomach. Mustard plasters were immediately administered, and I received careful watching for some hours. Finally, I fell asleep, and forgot my disappointment and humiliation in being obliged to throw away three-fourths of my cigar.

DIAMOND SMUGGLERS.

Some Tricks of the Trade—Statistics of the Business. Chambers' Journal gives some interesting stories of smugglers and their methods. "Please to hold my baby whilst my husband helps me to open my trunk; he will be quite good if you shake his rattle," said a lady passenger to the officer who was waiting to look over her travelling gear. And that officer good humoredly did as he was requested, shaking the rattle to the great delight of the little one. The rattle in question, fastened to a ribbon, was tied to the child's waist, was filled with gems of great value, a mode of smuggling that at the time was too simple for detection. A clever female, attired in the costume of a Sister of Mercy, was passed over by the officer because she had no luggage worth examining. She possessed, however, a fine string of beads, which, with downcast eyes, she kept telling. Safe on land, she was affectionately welcomed by two persons dressed in costumes similar to her own. Need it be told that she was a smuggler, and that her beads were so constructed that each held a diamond weighing seven or eight carats? Another ingenious person hit upon the plan of placing a few precious stones in a toy kaleidoscope, which had been given to a child, who carried it ashore in safety. A number of homing pigeons kept in cages, and purchased at a village in Belgium and brought to the United States by the way of Paris and Havre, also played a profitable part, each of the pigeons being freighted with a cargo of exquisite gems concealed in quills, and carefully fastened to the message-bearing dove. An extensive system of diamond smuggling was at one time carried on from Canadian ground by the aid of homing pigeons. The discovery of this illicit trade was made accidentally by a farmer, who happened to shoot one of the birds, and on examining it found that there was fastened to its leg a quill containing a number of diamonds! A clue being obtained, the local habitation of the pigeon proprietors was discovered and their mode of business put an end to. The scheme, stated simply, was to fly every week or ten days a flock of a dozen or fifteen pigeons, each carrying about half-a-dozen gems. As the duty on diamonds amounts to ten per cent. the trouble taken to smuggle these gems into the United States does not seem so very remarkable. The value of the precious stones honestly imported into the States is between \$800,000,000 and \$900,000,000 per annum, and it has been calculated that gems to half that sum escape payment of duty.

Female Beauty.

There is nothing so unfavourable to female beauty than late hours. Women who spend most part of the day in bed and the night at work or in dissipation have always a pale, faded complexion and dark-rimmed, wearied eyes. Too much sleep is almost as hurtful as too little, and is sure to bloat the person with a pallid and unwholesome fat. A gross and excessive indulgence in eating and drinking is fatal to female charms. The appetite should never be wasted during the intervals between meals on pastry, confectionary, or any other tickler of the appetite which gratifies the taste but does not support the system. Exercises is of course essential to female beauty.

NATURE'S GREAT FIREWORKS.

The Appearance of the Hawaiian Islands from the Sea. We copy the following graphic description of an eye-witness from the Hawaiian Gazette, February 15: On nearing the scene of the lava flow about 4 o'clock in the afternoon Saturday Jan. 29, our attention was about equally divided between the volumes of smoke issuing from the mountain side near the source and the constant jets of steam shooting into the air along the margin of the sea for perhaps a couple of miles where the fiery element seemed to be consuming even. THE MIGHTY PACIFIC in its hitherto irresistible march. Upon close examination with my glass I could distinguish large masses of dark ashen-colored lava, slowly forced by the pressure exerted from behind, meet the heavy swell of the heaving ocean, and with a rolling plunge bury itself forever amid a seething mass of steam and foam, the product of the two greatest forces the earth contains. At three different places small streams of lurid molten lava could be seen pouring their living fire into the breakers as they dashed themselves into foam and mingled with the steam that shot many feet into the air above. But the growing darkness gradually changed the scene, and all eyes were now intensely turned to the grand display on the mountain side. At first the eye could not wander from the cone which appeared to be the source, at an elevation of about 6,000 feet and about twenty miles distant from where we lay which sent up a constant solid VOLUME OF MOLTEN LAVA which seemed larger than the steamer on which we floated, and variously estimated by the passengers at from 50 to 200 feet in height. Clouds of smoke filled the air around and above it, and at intervals of about a minute or so it would belch forth flashes of lightning to illuminate the sky, so that the very smoke itself seemed a lurid glare of sulphurous fire. As the darkness of night closed around the rest of the mountain, the course of the lava became more and more distinct; now you trace its course until a few miles further down the mountain side you see it tumbling and pouring over a precipice, as a cascade that might easily be mistaken for another fountain connected with, and playing from, the regions of fire beneath. Then you follow it along a sweeping, but not tortuous channel, break the mountain side for miles throughout a break. Now it is hid for a short interval by forcing for itself a passage under the lava that has already cooled and formed a black crust above; but, as if determined to brook no restraint, it again bursts in full view, a MAGNIFICENT RIVER OF FIRE for a few miles more, and then again hides and reappears in the same way, until it is finally lost in the cracks and chasms of the hundreds of acres of smoldering lava piled along the flat bordering the sea below, and rolling large quantities of the latter into the sea, but itself only reaching the ocean in its molten state at three places, as stated before. The coal-black lava for a mile on each side, the belching fountain of lava above, the fiery river of lava coursing its sulphurous way to the sea, and the lurid glare of the smoky heavens closing around, formed a scene of sublime fiery grandeur, the like of which few on earth ever witnessed, and once seen can never be effaced from memory.

Fashions in Coffins.

There are fashions in everything nowadays, even in funerals, and as there are styles in garments, so also are there styles in coffins. One would think that the melancholy duty of burying the dead would be beyond the dictates of fashion to which nearly everything else in this world is forced to bow, but a stroll through the warehouses of some large manufacturing undertaker would quickly convince the doubter that even the house of mourning is ruled by the unyielding band of what the world calls fashion. Fashion said once that he who would be in style must be buried in a casket of beautifully polished rose-wood or other rare or costly wood with massive handles and trimming of silver. Then nothing but a slim purse suggested a departure from the ruling style. Now fashion says that a casket neatly and plainly covered with black cloth is the only really proper burial case, and this decree is as imperative as all others from the same source. Between these two extremes there have been many intermediate patterns, and fickle fashion will probably one day again order a change, and then the sombre casket of to-day will be a thing of the past and irrevocably "out of style." It is only in caskets for infants and young people that anything like latitude is permitted, and even then it is principally as regards color. White or the universal black are the colors prescribed, the former being that most used. For those who are bold enough to disregard the mandates of fashion there are a great variety of styles and colors available, some of them so novel as to be almost startling. For instance, an enterprising New York undertaker created quite a sensation the other day by conspicuously displaying in his window a casket covered with plush of the delicate shade known as Nile green and by its side another covered with light blue velvet. Without going to such extremes there are a great variety of shades and patterns of covering material. There are plushes, velvets and plain cloths in black, brown, blue old gold and numerous intermediate shades. Embossed and figured plushes are even included in the list of coverings.

QUEER THINGS ABOUT MONEY.

A Toronto gambler who had been playing in hard luck, borrowed a counterfeit silver dollar from a friend and made straight for the nearest saloon. He met with phenomenal success, and on quitting the game was \$121 ahead. As he was leaving the place he boasted of his trick, and was at once ignominiously kicked into the street. John Monroe, a young man living with his widowed sister in the northern part of Georgia, was digging a hole for a potato bin in his cellar the other day, when his spade broke open an earthen pot containing \$1,480 in gold. The coin had been buried by his sister's husband during the war, and subsequently forgotten. Some months ago a lady living in Butler, through fear of the deprivation of tramps, put \$110 in bank notes in a pasteboard box and buried it in the yard near the wood-pile. Last week she went out to get it and found that box and bills had been badly mutilated by lice. She has sent the notes to the banks which issued them for redemption.

SCIENTIFIC AND USEFUL.

The Japanese Government paper mill is manufacturing pocket-handkerchiefs and clothing of paper pulp containing a mixture of linen threads. The water put into gasaliers is likely to become frothy or evaporate; a small quantity of glycerine should therefore be added to the water, as glycerine will not freeze. If the manger or feed-box in stables be so foul as to emit a sour smell from any cause, it should be carefully cleaned and washed with a solution of soda or potash until perfectly sweet again. An order has been issued in Lower Austria forbidding manufacturers and tradesmen to sell nickel-plated cooking vessels. It is stated that vinegar and other acid substances dissolve nickel, and that this, in portions of one seventh of a grain, causes vomiting, and is more poisonous than copper. A practical recipe is to strain brewer's yeast until a moist mass is obtained. Place this in hair bags and press out till the mass is nearly dry. Then sew up in linen bags, and it is ready for transportation. It will keep for a long time, and is much used by bakers in the manufacture of the so-called Vienna bread. Professor Thomson has demonstrated before the New York Society of arts a novel application of electricity. By placing pieces of metal end to end under a forcing pressure, and passing an electrical current through them, perfect weldings are effected, even between metals otherwise incapable of being welded together, or between different metals. To weld steel of one and a half inch diameter, a current of six thousand amperes, having an electromotive force of half volt, was necessary. It is stated that the use of thirty-five-horse power for one minute will weld that thickness of steel without any blows or the application of other heat. Steel also may be welded in this way to brass. The First Ruler of Japan. The Chinese have an older civilization than the Japanese, but there is no doubt in the minds of statisticians at large that the latter people have the superior system of Government. They are endeavouring, at any rate, to keep abreast of the times and the advancement of the age. The history of Japan goes back about 2,600 years, and dates from the period when the orb of day proclaimed his dominion over the country. It is a very pretty tradition, which is believed by all loyal Japs, that the sun was the first Emperor in the land. Since that time no ruler has been arrayed in such splendour, not even the notoriously gorgeous Solomon of Eastern pride, nor the lilies of the field—even they present a comparatively modest appearance beside the effulgence of the first great, shining Emperor. But the sun lost his grip in some way and was deposited, and on the throne was placed Jimmu Tenno. No record exists of the sun having become angry at the proceedings or interposing objections. On the contrary, it is one of the greatest examples of returning good for evil that is on record. Instead of going off on a strike and, by "dousing the globe," cutting off the illumination of the world, old Sol went right along shedding his beams with the same lavish and gratuitous spirit as before. The children of the sun who have from time to time sat upon the ancient throne have, according to native historians, got along about as well as the rulers of other nations, although it is alleged that the Mikado has always been a mere figurehead, and that the business and policy of the Government were conducted by the Ministers of State. Self-Inflicted Misery. Many of us fritter our lives away. Indeed La Bruyere says that most men spend most of their time in making the rest miserable. On the other hand, "if the heart be right," says the Imitatio Christi, "then would every creature be to thee a mirror of life, a book of holy doctrine." Most of us can be rendered very unhappy by unkindness, the loss, the faults, even the coldness of those we love; but it is certainly true that no one was ever yet made utterly miserable except by himself. Marcus Aurelius wisely tells us to "remember on every occasion which leads thee to vexation to apply this principle—that this is not a misfortune, but that to bear it nobly is good fortune," and he elsewhere observes that "we suffer much more from the anger and vexation which we allow acts to rouse in us than we do from the acts themselves at which we are angry and vexed." He Left Him to Think Over It. It has often been a sportsman's fate to miss and marvel at what seemed unaccountably easy shots. The reply given by his stalker to a gentleman who, after a series of inexcusable misses, remarked: "Well, Donald, who's fault was it that time?" is admirable, and well portrays a sportsman's own feelings on such occasions. Quoth Donald, "Well, he wasn't more than a hundred yards, and it's not my fault you missed him; and it wasn't the fault of the stag, for he stood still enough; and it's not the fault of the rifle, for I ken well it's a right good one; so I'll just leave it to you to think it over to find out whose fault it was." Shocking Profanity. Dr. Sundel was a society-man who liked to air his Latin. He had taken an acquaintance to call on Mrs. Parvum, and the man had never called again, and when the lady saw the doctor, she asked him about it. "Ah, doctor," she said, "Where is your friend?" "Not my friend, madam," corrected the doctor; "he was merely a quondam acquaintance." "Sir," exclaimed the lady, in horrified amazement, "I don't know the relation existing; but, if you cannot express yourself in ladies' company without profanity, you had better follow your friend."