

**PRACTICAL HINTS RESPECTING MOTHS
AND BUTTERFLIES, WITH NOTICES OF
THEIR LOCALITIES: FORMING A
CALENDAR OF ENTOMOLOGICAL
OPERATIONS THROUGHOUT THE YEAR,
IN PURSUIT OF LEPIDOPTERA**

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RICHARD SHIELD

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BY
RICHARD SHIELD.

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CHAPTER I.

JANUARY.

WELCOME to the new Year! The old year, with its hopes and fears, is gone, and become a thing of the past; but although the year itself has gone, never to return, it has left behind it sunny memories—memories of green fields and leafy woods—of the happy social rambles in pursuit of Nature's beauties; rambles which, besides, supplied us with large draughts of health and joy. The umbrageous wood, the smiling meadow, the music of the rippling stream, as it winds its way over its pebbly bed—the song of the lark, as he rises from his dewy couch, soaring towards the sky, pouring out his little soul in floods of gushing melody, together with the busy stir of insect life, combine to form a scene calculated to produce the holiest hopes, the loftiest aspirations. Cold must be the heart not moved by such a scene—perturbed, indeed, must be the spirit that it would not soothe!

O, Memory! we love to linger with thee: thou bringest to us "voices of the past, shadows of the mighty dead;" thou fillest our souls with gladness, and our hearts with joy; thou incitest us to worthier deeds, to loftier aspirations; thou pointest out to us our shortcomings and errors; thou recallest to our minds the actions of the past, placing them in juxta-

position with the present, that we may be guided in our conduct now, and its probable effects on the future, by the experience of what has been.

Welcome, new year! A new year, a new hope; new hopes, new fears, new aspirations, new duties: may we use thy moments as a precious trust: if we lose or abuse thee, we are made to suffer for our negligence; "let us work, therefore, while it is day; the night cometh, when no man can work;" we must put forth all our energies, in order to obtain success in whatever pursuit we are engaged, and in nothing is this more true than in regard to entomological science, which is essentially a science of observation. The entomological tyro must not content himself by listlessly walking beside a hedgerow, or threading the mazes of a wood, capturing and observing only such insects as force themselves upon his observation, but he must diligently hunt for them, search them out, explore every crevice and crack in search of the perfect insects, and carefully scrutinize every tree, plant and herb that he comes across, in order to discover the larvæ or evidences of their operations: these will show themselves to the observant and industrious collector in every possible form, mining in blotches and galleries in the leaves, puckering, twisting and folding them in every conceivable manner, agglutinating the young shoots of plants, and mining beneath the bark of trees; feeding in a variety of ways upon every species of vegetable matter, from the lordly oak of the forest down to the humble lichen upon an old paling.

In order, therefore, to assist the tyro in his observations, I have endeavoured in the following pages,

under the respective months of the year, to give as succinctly, and in as plain language as possible, the ordinary operations to be performed in doors and in the open air by the Entomological tyro.

The month of January is, to the Entomologist, as far as the imago is concerned, almost a blank; it is, therefore, necessarily the best period of the year which he can select to "set his house in order" for the reception of his numerous guests that he may expect as the season advances; and if he does so he will find that a great deal of valuable time which he could ill spare during the busy summer season will be thereby saved to him.

The tyro who intends to breed insects (and he must do this if he expects to make good progress in Entomology) must provide himself with the following apparatus for rearing the larvæ of *Micro-Lepidoptera*, viz. :—several air-tight bottles (there is a bottle made by Messrs. Cook and Crawley, Raven Row, Spital-fields, that is admirably adapted for this purpose, especially for the pupæ of *Lithocolletis* and *Nepticula*); it is called the cylinder pattern, and consists of a bottle in the shape of a cylinder, with a wide mouth, fitted with a metal cover, round the inside of the rim of which is a ring of cork: this being flexible, on the cap being placed on the bottle it adapts itself to the shape of the mouth, filling up all the interstices, thus rendering it air-tight; they may be purchased at from about 2s. 6d. to 4s. 6d. a dozen complete.

2ndly. One or more tin canisters, of any form most convenient for containing larvæ when collected; a large box, or two or three large garden pots, for planting

therein the roots of such plants as contain larvæ, which require the plant to be kept in a growing state; a few round tin canisters, about nine inches deep by five in diameter, with lids whose rims slip on outside the cases, and with the whole circumference of the lids cut out to within about half-an-inch of the edge; also a box for rearing the pupæ of *Micro-Lepidoptera*, as follows:

“ Obtain one or more boxes of any convenient length or breadth, but not less than six inches in depth (either divided into compartments or not), and fitted with a lid, having a large space cut out of it to within an inch of the margin; this open space to be covered with either close wove wire or old calico affixed with thin glue. In the bottom of the box, or of each compartment, bore with a centre-bit one or more holes, about two-thirds of an inch in diameter; cover these with pieces of perforated zinc, tacked down; place on the bottom of each box or compartment moderately-large pebbles or sea-gravel, to the depth of about half-an-inch, and on this again, to the depth of two inches, the earth, on which to lay the pupæ, composed of garden-mould, silver sand, and thoroughly rotten wood from the heart of an old tree; on this, after being made smooth, distribute your pupæ in such a manner, according to their size, that when covered none are more than half-an-inch below the surface, and cover the surface of the mould with a layer of moss, about half-an-inch thick. The inside of the box should be rough, and the box itself should be raised on pieces of wood, or have pieces of wood fixed to the bottom in such a manner that it may stand clearly above the floor.

“ By this arrangement you may damp your pupæ

with impunity, as it is impossible for them to become saturated with stagnant water, owing to the bottom drainage, and the moss at the top prevents undue evaporation by absorbing a certain quantity of moisture, and thus striking a medium between the two extremes of wet and drought."

Having provided himself with the foregoing, together with a ring-net, as described in the "Entomologist's Companion," 2nd edition, page 3, and a supply of pill-boxes and pins, the tyro is ready to commence his Entomological campaign.

And, now, gentle reader, let us take a ramble together; let us walk in the open country, explore the weedy bank, or peer with curious eyes along the old park-palings' green and mossy space, examining each nook and cranny with minute attention, and having reached the end, retrace our steps for fear some portion might have escaped our scrutiny; let us examine the twisted leaf, the roll'd-up grass blade, or dig deep into the centre of some ancient gate-post or antiquated paling, for in all these lie concealed the objects of our search.

It is a fine clear morning; the sky is brightly blue and studded with fleecy clouds, that look like a flock of sheep as they gambol along chasing each other before the breeze. The milkmen with their shining cans are hurrying about in desperate confusion, calling out "below" at every few paces, as if they expected to fall over some unfortunate pedestrian, and were anxious to give him timely notice of their coming—the peripatetic coffee-shops are going home, some on wheels, others on yokes, and all looking remarkably sleepy

after their "night-out," while the smell and sound of breakfast (of which we have partaken) ascends in gushes from the kitchens of the various houses, as we hurry on our way to the terminus of the "South-Eastern Railway," to catch the quarter past-eight o'clock train for Norwood, "en route" to West Wickham Wood.

Having obtained our tickets and taken our seats, our iron horse soon begins to feel the collar, and with a puff and a snort he commences the journey. "Now we're off!" exclaim one or two of the passengers, which is the maximum of the conversation we may expect to hear until we reach our destination.

Having reached the Norwood station, alighted and given up our tickets to the porter, we recommence our journey on foot, taking the Addington road; and even now we are in good collecting ground, the lanes on our road are bounded by fine hedges, principally composed of whitethorn, privet and dwarf maple, while the banks underneath them are covered with herbage of good growth, consisting of ground-ivy (*Glechoma hederacea*), flea-bane (*Inula dysenterica*), burdock (*Arctium Lappa*), wild strawberry (*Fragaria vesca*), perforated St. John's Wort (*Hypericum perforatum*), together with black-knapweed, goose-foot, cow-parsley, mouse-ear chickweed, *Artemisia*, and a host of other plants, all of which form food for the objects of our search; let us commence:

If we stoop down and examine the grass upon that hedge-bank we shall see that some of the blades, instead of being flat as usual, are rolled up from the bottom upwards, and that some of these rolled leaves are attached by their points to others in their neigh-