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DIRECTIONS

FOR

COLLECTING OBJECTS OF NATURAL HISTORY.

EVERY person in a Foreign Country has constant opportunities, without interfering with his other occupations, of making valuable contributions to Natural History, if he will only pick up and send home the different objects which he sees around him. The objects he is to collect must doubtless depend much on the appliances he has at hand, and the facilities of transmission which he can command; and the following directions are intended to apply only to a few of the more interesting objects he may meet with, and simply as an indication of what would be most valued, when the opportunity of securing them occurs.

BEETLES.

These are very easily collected and sent home. There are two ways of doing so. Carry a small bottle or phial with a little spirits, into which put the beetles as they are caught, then transfer them into a larger jar, containing sufficient spirits to cover them (the ordinary pickle bottle forms the most convenient jar), and send it home when full. If not quite full when an opportunity occurs, fill up the bottle with some soft substance, such as cotton or rags, to prevent its contents shaking, and let the *spirits* be *renewed* immediately before packing.

The other method is, after having caught them and put them into a phial of spirits, or into hot water to kill them, dry them thoroughly; then pack them lightly in a box in alternate layers of beetles and dry rag, till the box is full, taking care not to squeeze them for fear of breaking their limbs; but to fill the box so nearly as to prevent shaking. If the muscular parts be not thoroughly dried, the insects will become mouldy and decay. The plan of sending them home in jars answers best for large insects; that of packing in rags for small ones.

Beetles will be found everywhere — under stones — under bark — in dung — in and under dead animals — in decayed wood, &c. The children of the natives may be made very useful in picking them up.

N.B. — It is specially to be observed with regard to all objects of Natural History, that the Collector cannot send too many specimens of the same kind. Suppose his friend at home to have fifty correspondents engaged in the same pursuit (a very moderate number), and that each correspondent would like four specimens, it will be easily seen that no less a number than 200 of the same species is required to satisfy the demands of even this limited number of claimants.

BUTTERFLIES AND OTHER FLIES.

These, from their delicate and fragile nature, are more difficult to preserve. Supposing them captured by the aid of a net, the Butterflies may be easily killed by steady compression of the chest with the thumb and finger. The best net for every thing, is a bag made of unbleached linen; this becomes soft after a little use, and can be applied to catch any thing. Moths are put to death in this country by means of prussic acid, chloroform, chopped laurel leaves, or other evaporating poisons; and there is little doubt that very many substitutes of a similar nature may be found in all foreign countries. They should, when killed, be pinned perpendicularly through the chest, and the insects, so secured, inserted in a box lined with cork, pith, or even the soft woods which are to be met with in most climates. Where pins are wanting, they may be packed between layers of rags, in the same way as Beetles. In that case they should be killed by pressure of the under part of the chest between the thumb and fingers, and the wings carefully folded back in their natural position of repose. Where the person is resident, the best method is undoubtedly, to rear the Insect from the Caterpillar state, this being easily done, by taking the Caterpillar, with sufficiency of the food on which it is found, and placing it in a box, say an old cigar box, covered with muslin or gauze, or with a little earth at the bottom. The Caterpillars will undergo their transformation in the earth, or in the corners of the box, and in some weeks or months afterwards the perfect Insect will appear, although many of them require twelve months, and some of them even two years and upwards, for their development. If these Chrysalids could be sent home in a healthy condition (which perhaps could best be done in earth or sawdust), they would be extremely valuable. A large number can be bred in this way at the same time, and their growth and development furnish much interest to the observer.

N.B. — Pins and boxes to place the Insects in, will be furnished by the Subscriber to those undertaking to use them, as it is of essential importance that Entomological pins be employed.

SHELLS.

If small, do not attempt to take out the animal, but let it dry in the shell; if larger, put the shell in boiling water, and pick out the animal, taking care not to break the edge of the mouth. If the shell is a bivalve, the animal can be easily taken out, but care should be taken not to separate the two valves or break the hinge. The epidermis or external covering, should, if possible, be preserved in its natural position. Shells are best packed in a box with saw-dust.

It is also desirable to have a few specimens preserved in spirits with the animal in them.

Land shells will be found under stones or dead leaves, and in moist places. The aquatic species may be fished for in tanks or ditches, among the water plants; a bag upon an iron hook is the most successful net.

SNAKES, LIZARDS, AND FISH.

Send home in bottles, in spirits, opening the belly of the larger species to admit the spirits, but without removing the intestines, and wrapping each specimen in a separate rag.

BIRDS AND MAMMALS.

Send the smaller Birds home in the same way. The larger must be skinned and the skins dried. The skinning is done by cutting a slit in the belly, and gradually working back the skin till the limbs and body are got out. When the skin cannot be further pushed back, as at the knees, or last joint of the wings of birds, the joint is separated, or the bone cut through. The skin should always be separated from the skull, as far as the eyes. The brain is taken out at the hinder part of the skull. The skin should be carefully cleansed from all particles of flesh or fat, and rubbed with arsenical soap or paste. If that is not at hand, Cayenne pepper, common pepper, snuff, or burned alum, pounded, may be used. The skin, thus prepared, should not be stuffed, but simply rolled up in a piece of paper, a little straw or tow being first placed in the inside to prevent the sides sticking together.

N.B. — On any one intimating to the Subscriber an intention to send home skins of Birds or Animals, he will be furnished with a supply of arsenical paste, and more extended instructions.

CRABS, SHRIMPS, STAR FISHES, ZOOPHYTES, &c.

Small specimens, inhabiting either salt or fresh water, may be sent home in spirits. Larger ones should have their intestines taken out, and come best packed in saw-dust. Star Fishes, however, are best dried. Sponges and horny Zoophytes may be dried and sent like Botanical specimens.

SEEDS AND BOTANICAL SPECIMENS.

The Seeds of Plants should be sent in paper packets in a common box. When they are to be sent by sea, weight is of less consequence, and they may be packed in layers of dry earth. It is needless to say, that an example of the plant furnishing the seed should accompany it when possible.

Botanical specimens should be prepared by placing the specimen of the plant (flower, stem, leaves, and root, where practicable) between drying paper, subjecting it to pressure, and changing or drying the paper every day till the specimen is perfectly free from moisture. The value of such specimens is greatly enhanced by the addition of a label indicating locality, date, altitude, and any other particulars, such as soil, rocks, temperature, &c.

DIATOMS.

All that is required for these, is to fill small phials with the fine vegetable mud which is to be found in pools, bogs, and quiet parts of streams.

FOSSILS AND MINERALS.

These should be wrapped in separate pieces of cloth or paper, and packed separately in dry moss, shavings, or other soft substances. Where Fossils are found, the circumstances relating to their position, &c. should be noted, and care should be taken that the minuter portions are not overlooked.

SKELETONS.

The Skulls and Skeletons of the different native tribes of the human race, as well as of the lower animals, including Mammals, Birds, and Snakes, &c. are still rare, and would therefore be valuable contributions to this country.

In sending home animals in spirits, never mix the different classes of animals in the same bottle — let them be all Beetles, all Fish, or all Snakes, &c. Another most important matter to attend to, is to mark with care on the bottle, box, or specimen, the locality in which they were collected and the season when taken.

The Subscriber urgently begs those into whose hands this paper may fall, to give him their assistance. To any one willing to engage in this object, he will be happy to furnish more detailed instructions, as well as the materials already alluded to.

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