

ENTOMOLOGICAL ITEMS.

TWO SUGGESTIONS TO STUDENTS OF ENTOMOLOGY.—Some years ago we used the following method for studying the venation of the wings of small lepidoptera. We have told it since to many friends, but believe it has not been published. It is in some respects preferable to the so-called "Dimmock process" and particularly as a time-saver. It is also in this respect preferable to denudation with a brush. The wing is removed and mounted upon a slide in Canada balsam, which should be preferably rather thick. The slide is then held over the flame of an alcohol lamp until the balsam spreads well over the wing. Just as it is about to enter the veins, however, the slide is placed on ice, or, if in the winter time, outside the window for a few moments. This thickens the balsam immediately and prevents it from entering the veins, which remain permanently filled with air and appear black with transmitted light. With a little practice one soon becomes expert enough to remove the slide and cool it at just the right time, when the scales will have been rendered nearly transparent, by the balsam while the veins remain filled with air. We have done this satisfactorily not only with *tortricidae* and *tineidae*, but with noctuids of the size of *Aletia* and *Leucania*. The mounts are permanent, and we have some which have remained unchanged since 1880. Professor Riley had for some years before this been in the habit of mounting wings in balsam, in which, of course, the scales cleared after a time. With aphids and coccids, which are covered with an abundant waxy secretion which can not be readily brushed away, we have adopted the plan of melting the wax. We place the insect on a bit of platinum foil and pass it once over the flame of the alcohol lamp. The wax melts at a surprisingly low temperature and leaves the insect perfectly clean for study. This method is particularly of use in the removal of the waxy cocoon of the pupae of male *coccidae*, and is quicker and more

thorough than the use of any of the chemical wax solvents which we have tried. L. O. HOWARD, in *Insect Life*, Nov., 1888, p. 151-152.

HABITS OF TERMITES.—Mr. P. H. Dudley, in an article read before the New York microscopical society and published in its Journal for July 1888, describes some of the habits of white ants, especially of those found on the Isthmus of Panama. He writes of a slide of woody fibre, or pulp, from a termites' nest:

"The wood has been so thoroughly comminuted, that it is doubtful whether it could be recognized as woody particles under the microscope, unaided by chemical reagents.

"A study of similar slides throws some light upon their work of destruction on many kinds of wood, in structures.

"The particles of wood do not have as sharp, angular corners as one would naturally expect of chips cut from solid wood; on the other hand, they seem as tho made from softened wood, or that undergoing decay. The particles have more the appearance of little pellets than cuttings, which in some measure is doubtless due to the form, motion and pressure of the mandibles. After they are cut the next step is not clear. Some cuttings serve as food for the insects, as they are found in the alimentary canal. Others are mixed with some substance which causes the particles to adhere, and then are fashioned into the walls, which form the galleries of the nest.

"The walls are built up of a number of thin layers of the cuttings, give evidence of being prepared with great care, and become quite hard and solid. A fragment thrown into water does not disintegrate by soaking, and after many hours it requires trituration to separate the particles.

"On turning a piece, nearly all of the substance is consumed; the residuum, however, being much more than the natural ash of the wood—some clay is present. Phloroglucin gives a reaction, showing some lignin is still in the woody particles. In many of the specimens I found fragments of the mycelium of a fungus, and upon examining the stick of yellow pine, 6X11 inches, which contained the nest, found it was in process of decay at the point of attack." . . .

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