

*The Arsenical Fluid.*—When I employ arsenic for its softening properties, I use it alone, unless the process is likely to occupy much time, and in that case, I combine it with the B fluid, in the following proportions, and call it C : B fluid, as directed above, arsenic 20 grains. Arsenic can no more be trusted with carbonate of lime, than alum; and if it be desired to employ it on any molluscous animal the creature should be removed from its shell prior to its introduction to arsenic. The solutions of arsenic that I have employed differ in strength from 20 grains to 60 grains to a pint of water, (imperial measure, 20 ounces) or to the pint of B fluid. It is not easy to dissolve this mineral, and the only plan which I have found successful, is to place the quantity of arsenic to be dissolved in a Florence oil flask with half a pint of water, apply a spirit lamp, and boil till the whole be dissolved, it can then be diluted by the addition, either of more water, or preserving fluid. I may mention one singular fact of preservation by this fluid, no less of the animal, than (which is most important) its color.

Upwards of six years ago my Son collected for me several specimens of the larvæ of *Cossus Ligniperda*, the peculiar color of which had never been preserved. In alcoholic fluid, of any strength, it turns quite black, which is a common result of the application of spirit for preserving caterpillars; in addition, most insect colors are soluble in alcohol.

The specimens included larvæ of the first and second year, and one fine sample of a three-year larva about to turn to a chrysalis. Of the former specimens I preserved some in the A 2, and the rest in the B fluid, and placed the last in a solution of arsenic. The aluminous fluid has hardened and disfigured the caterpillars nearly as much as spirit would have done; they are softer, and in better state for dissecting, in the B fluid; but they have lost all their rosy redness of color in both fluids, and are partially black.

It was reserved for the arsenic to give me one caterpillar so beautifully preserved that all its characteristic color, even to the most delicate tint, is maintained to this time. I believe that the interior has not been destroyed by the softening tendency of arsenic