

before alluded to, because, if so, I think there would be considerable deposit in the fluid, which has not occurred; neither in that case would the insect retain its roundness, and fullness, but on the contrary become flaccid by the removal of those tissues (muscles) that give form to the integument. As this caterpillar had been secluded from the operation of light (the fruitful agent for destroying color in animals) for more than twelve months, I determined to try the effect of constant exposure, to which I submitted it for three years in England, and for six months in this country; its beauty is still unimpaired. As it was a sole specimen, and I am not likely to obtain another, I am unwilling to dissect it.

I have been particular in speaking of the successful application of arsenic in the preservation of *color* in this caterpillar, because I believe it is of some importance. It is most interesting to collect the larvæ of Lepidopterous and other insects, as far as possible, but they lose much value for the purpose of instruction and for collections, unless their color can be permanently preserved; and I have great hopes that the fluid which has proved so eminently successful in the instance of the caterpillar of the goatmoth, which takes on the described blackness a very few days after death, in every other perserving fluid, may be equally efficacious in the preservation of color, in the other species.

*Mode of using the Preserving Fluids.*—A knowledge of the proper method of using these fluids is essential to success, for in other hands than my own, they have led to the destruction rather than the preservation of specimens. Men have constantly treated my preserving fluids as though they were using spirit, entirely overlooking one very important consideration, namely, the vast difference between their specific gravity and that of alcohol. In the latter, we have a fluid so light that every animal is *heavier*, and will instantly sink in it; the conditions are exactly reversed in the former case, where every animal, from an animalcule to an elephant, is *lighter*, and will float upon either of them.

Neither of my fluids (always excepting the arsenical) *can be employed of full strength in the first instance*, and anything to be preserved in them should undergo previous maceration in clean