

for several years, all proving to be more or less unsatisfactory. Finally it was decided to use India rubber stoppers. Though these were decidedly more expensive, they have during twelve years given the most satisfactory results. A continual supervision and re-filling of carefully closed vials is unnecessary, and the greater outlay at first is after a few years more than repaid; time, alcohol and manual help are saved. At first the strong compression of the alcohol in placing the stoppers was the principal cause of insecurity of the filled vials, as the stoppers were very apt to slip out. In putting the stopper in the vial, I introduce now a fine insect pin (to be removed later), allowing the air to escape and thus preventing the strong compression of the alcohol (Ann. Rep. of the Museum for 1874, p. 13).

A small test vial, 70 m. m. long and 16 m. m. broad, filled in this way, October, 1873, was kept purposely for three years in the sunshine; the length of the air bubble retained in the vial was carefully measured, and found to be 14 m. m.; a year later the bubble had about the same length. In summer the bubble was smaller, owing to the greater expansion of the alcohol, proving at the same time the close fitting of the stopper. On November 14, 1882, the bubble was 20 m. m. long, and is now, October 6, 1885, 30 m. m. long. The vial was never opened during the twelve years, and is now in such a condition that it would not need re-filling if used in the collection. The collection contains many smaller vials and a number of larger ones (the largest for the larva of *Dynastes hercules*, 180 m. m. long and 50 m. m. broad), and with very rare exceptions, re-filling was not necessary. I would remark that all stoppers used are of vulcanized India rubber. The so-called pure rubber stoppers used for chemical purposes are probably better, but they were then not for sale in Boston, and are also 30 per cent. more expensive. During late years a number of them have been used to ascertain their reputed superiority. A disadvantage of the vulcanized stoppers is the formation of small crystals of sulphur in the alcohol, which attach themselves firmly to the insects, and are for delicate objects injurious. This disadvantage is, however, easily obviated, or at least very much diminished, when the stoppers are thoroughly washed before use, or better, are put half an hour in warm water.

The most important point was, how long these stoppers would do well, and when they would need to be replaced by new ones. To know exactly the average time of the efficiency of the rubber stoppers, it was necessary to know the number of vials in use. My assistant has counted them carefully. To Coleoptera belong 1,423; Lepidoptera, 1,547;