

APPARATUS, &c., SUPPLIED FOR USE IN NATURALISTS' WORKROOM—*continued.*

<p>3 Shrimp nets, mouth 4 ft. wide. (These yield good results, if worked at night at low tide.)</p> <p>3 Circular prawn nets, 3 ft. in diameter.</p> <p>3 Drum net traps, 5 ft. × 2½ ft.</p> <p>24 Lobster pots.</p> <p>2 Fishing rods.</p> <p>Store of lines, swivels, &c.</p> <p>50 Wire ventilating screens 22 in. × 12, for drying plants. (A large supply is recommended if the collection of plants on any great scale is intended.)</p>	<p>4 Reams botanical paper.</p> <p>2 „ filtering paper.</p> <p>4 „ ordinary brown paper.</p> <p>2 „ fine white paper for algæ.</p> <p>Supply of calico for covering algæ when drying.</p> <p>Supply of microscopic reagents, picric acid, osmic acid, chromic acid, chromate of potassium, cyanide of potassium for preserving specimens, corrosive sublimate, arsenical soap, &c.</p>
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CHEMICAL APPARATUS SUPPLIED.

Reagents.—Large supplies of all chemicals which could possibly be of use were taken. As was expected, many substances were never used at all, but, on the other hand, there was nothing wanted which was not to be had. Experience showed that it is necessary to have a complete set of the ordinary laboratory reagents such as are included in the lists in Fresenius' Qualitative and Quantitative Analysis. These need not take up much room, for, the great majority of them are wanted so seldom that very small quantities suffice. The liquid reagents should be made up in 2 oz. stoppered bottles, and the solid substances required for replenishing them or for use in the dry way should be kept in 2 oz. wide-mouthed stoppered bottles, and for most reagents this supply is sufficient. There are, however, certain chemicals, which are always in more frequent use, and others which, from the special nature of the work, will be required in greater quantity, and of these larger supplies must naturally be provided. Of the ordinary reagents so required, there are the acids, sulphuric, hydrochloric, and nitric, the alkalies, potash and ammonia, and salts, such as chloride of barium and nitrate of silver. The acids should be both dilute and concentrated, and it is well to have the dilute acids handy in larger quantity than would be contained in a 2 oz. bottle. Caustic potash should be kept in the solid state. The special reagents required in larger quantity are determined by the nature of the work contemplated, and as the principal purely chemical work carried on regularly was the determination of carbonic acid, considerable supplies of hydrate of baryta as well as of chloride of barium were required. Spirits of wine is necessarily carried in large quantity on account of its use as fuel and for preserving specimens. A solvent such as ether, sulphide of carbon, or chloroform, is often wanted, the last of these should be preferred.

In fitting out the laboratory with chemicals, an *abundant* supply of those required for the regular every day work which it is proposed to carry out should be taken, but room should not be wasted in accommodating reserve supplies of substances which are likely to be wanted only occasionally. As apothecaries and photographers are to be found all over the world, there is no difficulty in replenishing the store of any chemical which may be exhausted. Strong acids should not be kept on board in large quantities, as they also can be replenished.

GENERAL LABORATORY APPARATUS.

The following is a list of apparatus supplied or purchased, and found useful during the cruise:—

<p style="text-align: center;"><i>Metal Apparatus.</i></p> <p>1 Copper air-bath.</p> <p>4 „ water-baths.</p> <p>8 Iron sand-baths.</p> <p>2 Retort stands.</p>	<p>6 Tinned iron spirit lamps.</p> <p>18 Brass clips.</p> <p>2 Crucible tongs.</p> <p>3 Spatulas.</p> <p>5 Steel pincettes.</p> <p>2 „ „ with platinum points.</p>
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