

The present writer has recently had an opportunity to examine in a traveling museum a mounted 36-foot specimen of *Cetorhinus maximus* taken in Monterey Bay, California. This had a thick and stout but very marked snout, bluntly conical in shape, which projected at least 15 inches in front of the upper jaw and from 18-20 inches over the lower jaw. It is interesting that such a marked structure should have so long escaped notice, but on the other hand opportunities to examine this giant shark come very rarely to properly trained naturalists. However, it seems from the above data that Jordan's name, elephant shark, is by no means a misnomer.

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LABELING CHEMICAL SPECIMENS

PROBABLY every teacher of chemistry makes some use of samples of chemical elements and compounds in his lectures. In some cases, the set of specimens may have been purchased complete, in uniform style containers, with systematic and uniform labeling. Quite often, however, the additions to a chemical museum are made gradually, and as a result the collection may consist of all sorts, sizes and varieties of containers with an equally varied assortment of labels. When a set of specimens grows in this way, one can scarcely make use of serial numbers alone. An expansible system is necessary. The writer has used such a system for several years, with increasing satisfaction.

This labeling system has so far been used only for elements and inorganic compounds. It corresponds in principle to the usual library method of labeling books. A chemical catalogue of a leading firm was used as the source of the names. The list of chemicals being really quite comprehensive, it was possible to give a label number to the name of each substance one would ever be likely to include in a collection, writing these label numbers directly into the catalogue. The list of the chemical elements, in alphabetical order, was taken as the starting point. Names of elements begin-

ning with the same letter are given serial numbers, as for example, magnesium is called M 1; manganese, M 2; mercury, M 3; molybdenum, M 4; aluminium, A 1; and ammonium compounds are placed under A 2. Specimens of the elements are labeled thus: Aluminium, A 1.0. When several kinds of samples of an element are included they are labeled thus: Aluminium, A 1.0 sh; aluminium, A 1.0 po; aluminium, A 1.0 le; the letters "sh," "po" and "le" stand respectively for "sheet," "powder" and "leaf." The method of labeling compounds may be illustrated by a few from the sodium list:

Sodium acetate, cryst.	S 6 a
Sodium acetate, fused	S 6 a 2
Sodium acid carbonate	S 6 ca
Sodium carbonate, dry	S 6 ca 4
Sodium chlorate	S 6 ch
Sodium chloride	S 6 chl
Sodium cyanide	S 6 cy
Sodium iodate	S 6 io
Sodium iodide	S 6 io 2
Sodium acid sulphate, powd.	S 6 su
Sodium acid sulphate, fused	S 6 su 3
Sodium sulphate, cryst.	S 6 su 4
Sodium sulphate, powd.	S 6 su 5
Sodium sulphide	S 6 sul
Sodium acid sulphite	S 6 sul 3
Sodium sulphite, cryst.	S 6 sul 4
Sodium sulphite, powd.	S 6 sul 5
Sodium sulphocyanate	S 6 sul 6
Sodium thiosulphate, cryst.	S 6 th
Sodium thiosulphate, powd.	S 6 th 2

Where omissions occur, as between "S 6 ca" and "S 6 ca 4," it is understood that other compounds or different forms of the same compound are to be supplied. These are, of course, to be found in the complete chemical catalogue.

From these examples it may be seen that the bottles, marked in this way, can always be kept in alphabetical order, and can scarcely be misplaced if the labels are read as to letters and numbers. Any sort of helper, who knows his alphabet and can count, will be able to take out specimens and replace them without confusion. New samples can be easily inserted anywhere, and given a label which shows exactly where it belongs.

No originality is, of course, claimed for this system of labeling, but the writer does not happen to know of its being used elsewhere for chemical specimens. Any one may easily devise letters and numbers to fit his present collection as well as future additions. Provision may be made for alloys, commercial samples, and the like, wherever necessary.

It is convenient to write the letters and figures in two lines, library style, as, "S 6" is written large with the "th 2" written small, beneath. Three figures, with the initial, will be the maximum number of characters in the first line. For the lower line, the rule is not to use more than three letters, while two figures will always be sufficient.

The bottles used in the writer's collection are one-pound and half-pound "salt mouth," of uniform style, with "mushroom" stoppers. These are convenient sizes, the smaller size being used mainly for the more costly substances. There are two labels on each bottle. The larger labels are known to the trade as No. 1006, about four by one and five eighths inches. The names of the substances are printed on these labels with rubber type in capital letters a quarter of an inch high. These labels are placed just below the shoulder of the bottle. The round labels used for the index letters and numbers are known as "A 88" or library labels. These are centered under the large label near the bottom of the bottle. A library assistant did the lettering of these labels, using india ink. The bottles are sealed with paraffin, and the labels coated with paraffin. The latter is necessary as the bottles are kept on open shelves, and usually require wiping with a damp cloth when they are to be shown. The paraffin further protects the labels against accidental contact with acids or alkalies.

This system of labeling is scarcely applicable to organic compounds, unless one does not wish to keep them separate from inorganic. The writer, for present purposes, has made a list of the substances studied or referred to, in order, in the organic text used (one of the most complete published), and each substance given a number. This does not include sub-

stances that are impracticable to keep or procure. The collection is so arranged that the substances mentioned in a given chapter are found together, in numerical order, the missing numbers to be supplied in the future. Another possible arrangement is by classes of compounds. This has been used, but is rather less convenient than the present arrangement. In the organic set, the half-pound bottle is the maximum size for solids, the two-ounce the minimum. For liquids, there are three sizes, from a half-liter down. The labels are No. 1007 for the names, and No. 539 for the numbers. The bottles are paraffined as in the inorganic set. On account of the effect of light on many organic compounds, the specimens are kept in a dark room, where the inorganic set is also kept for convenience.

The "looks" of one's teaching devices will be certain to leave lasting impressions on the observer. This is especially true in the chemical laboratory and lecture room. While it is not claimed that the above-described methods of labeling bottled chemical specimens are the best that could be devised, they have served the writer very well and it is hoped that the description may interest others.

C. E. VAIL

COLORADO AGRICULTURAL COLLEGE

REPORT OF THE SAN FRANCISCO MEETING
OF SECTION F OF THE AMERICAN ASSOCIATION FOR THE ADVANCE-
MENT OF SCIENCE. II

Thursday, August 5

Morning Session, Demonstrations

In charge of OLIVE SWEZY, University of California
Entamoeba Buccalis, Inez F. Smith, University of California.

Mitosis and Multiple Fission in the Flagellata, Olive Swezy, University of California.

Mitosis in *Lambliia muris*, Elizabeth Christiansen, University of California.

Enflagellating and Exflagellating Soil Amœba, Charlie W. Wilson, University of California.

Flagellates of Hemiptera, Irene McCulloch, University of California.

Drawings for Monograph on Dinoflagellata, C. A. Kofoed and Mrs. Rigden-Michener, University of California.