

SOME PROCEDURES IN CARING FOR A RESEARCH  
COLLECTION OF BIRDS.

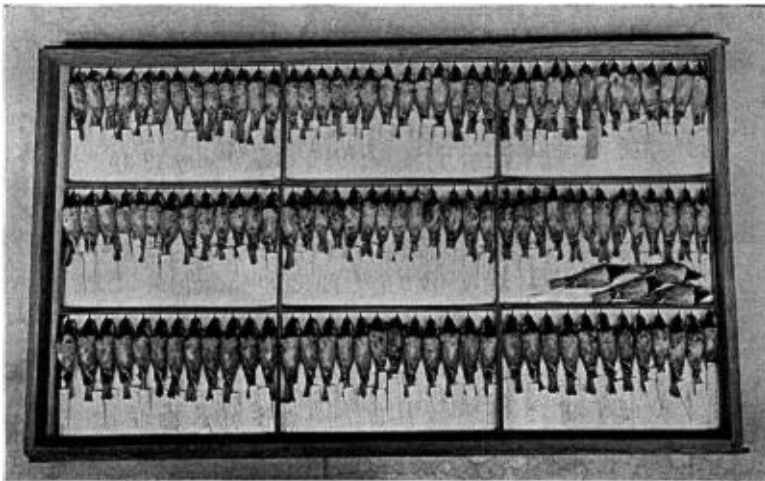
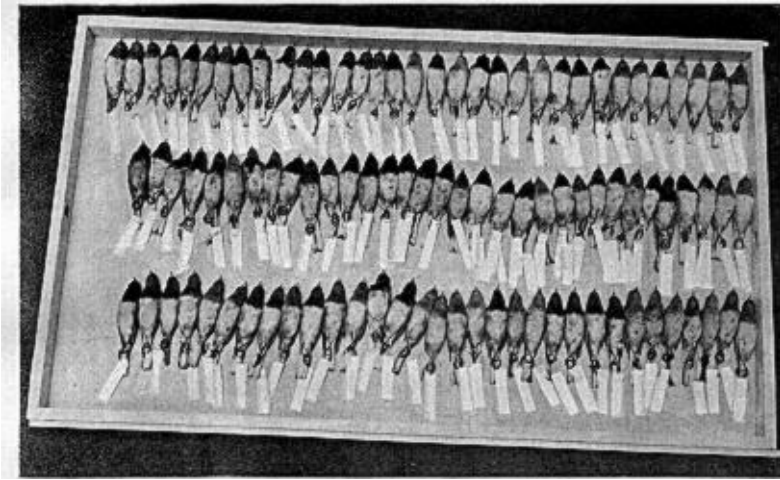
BY MARGARET W. WYTHE.

*Plate XVII.*

EFFORTS to insure permanent and safe preservation of materials and at the same time to provide for the greatest facility of handling them are instinctive aims of a museum curator. To this end, members of the staff of the Museum of Vertebrate Zoology have been seeking to discover improved methods of caring for the research collections under their charge. As a result, several ideas have been incorporated into our methods of housing and caring for birds and birds' eggs which may prove helpful to curatorial workers elsewhere.

The first improvement pertains to small bird skins. All specimens of this nature are stored in trays with pulp-board bottoms within standard unit zinc cases. The skins are arranged in rows, from front to back, each skin with head at left and label extended over tail and feet, toward the right. With trays of the size in use here,  $22\frac{5}{8}$  by 39 by  $1\frac{5}{8}$  inches (inside dimensions), a single row of Hummingbirds averages 60 skins, while a row of Song Sparrows averages thirty skins. Three such rows of skins comfortably fill a tray, so that no label is obscured or placed at an angle in order to be completely visible. This item is important in housing a collection whose prime purpose is study of a skin together with all known data pertaining to it, for the label is an index to this information. This arrangement, however, has presented one obstacle to the best preservation of skins. Every time a tray is opened and closed, no matter how carefully it is done, each skin has a tendency to slip sideways. This not only leads to ruffling of feathers, but, sooner or later, to crowding of skins toward the back of the tray.

After careful study of various methods, the following scheme has been adopted. Each large tray is divided into nine equal compartments by means of shallow containers. These small trays are made of light-weight, white cardboard, covered on the outside with a neutral tone paper which extends over the sides for



UPPER.—TRAY WITHOUT SMALL CONTAINERS.

LOWER.—WITH CONTAINERS, AND SHOWING TEMPORARY STORAGE OF NEW, ADDITIONAL SPECIMENS.

their full depth. Our trays measure  $7\frac{1}{2}$  by 13 inches (outside dimensions) with sides  $\frac{3}{4}$  inch high. These containers thus fit so closely that they will not move when a large tray is pulled out or pushed in. Exactness of fit is essential, so that in making out specifications for construction, *outside dimensions* are stated, and the utmost accuracy should be insisted upon when accepting the finished product.

It has been our experience that unless these containers are used at once, they usually need to be repacked for storage in order to keep them from warping. The method we have adopted is to lay double rows, bottom to bottom, inside of our surplus case trays. If these are not available, the small containers can be stacked with safety if sufficiently heavy cardboard a little larger than the tray or groups of trays be inserted between rows. In this case, care must be taken not to stack them too high, for the lower trays will have their sides crushed by the weight of those above. Warped containers are not good because the specimens do not stay in place well, and the trays themselves tend to tip instead of fitting snugly on all sides.

Containers of this size are useful for any specimens that fit large trays in three rows so that labels are entirely visible. Skins are arranged in the small containers exactly as in a large tray; that is, so that they are in three front-to-back rows, with heads at left. The only difference in appearance is that the rows are broken into three units each by the ends of the containers.

Advantages of this storage system are two-fold: (1) better permanent preservation of research study skins; (2) better facility for study purposes. Several factors for better preservation of specimens are apparent. In the first place, division of the large tray into a number of smaller units lessens the jarring upon each row of specimens. The containers themselves get the initial impact when a tray is opened and closed, and the specimens, instead of all slowly shifting position and piling at one place at the far end, get only one-third the impact, are jarred less, and tend to stay in position better. This eliminates the ruffling of feathers consequent upon undue movement and piling which sometimes happens even with the best of care, under the former method of storage.

In permanent storage of bird skins in the Museum of Vertebrate Zoology, all specimens of the same species are kept together, with space at the end of each series of skins for a limited number of new entries. Sometimes this space becomes used up and there is no further room for expansion until new cases are available. In the interim, the small shallow trays offer a special convenience. When a new specimen is added it can be placed lengthwise in the container which has other specimens from the same or nearest geographical locality, this being in general our arrangement within each species. There is less likelihood of overlooking the proper placement of recently added specimens when expansion becomes possible. If a large series has to be added, in the case of the smaller birds, a second layer of several containers can be placed on top of the first layer and still not be too high to touch the large drawer above. This upper row may be laid either crosswise, or lengthwise if separated by a single sheet of cardboard to keep it from settling onto the skins below. In this way the capacity of a large tray can be doubled when necessity arises.

The process of shuffling skins when expanding into new cases is much easier with the small containers. Whole series of skins, from ten to twenty, according to the size of birds contained, can be lifted with a single movement and placed in their new position without disarrangement; or, if new skins have to be added, it is often possible to do this by the insertion of another container, and shuffling of but a comparatively few skins.

Comparing trays which have been arranged according to this new method, with others not yet changed, the effect of the new is much more pleasing to the eye than the old way. The edges of the small containers not only help the individual rows of birds to stay in alignment, with bills against sides of containers, but give an appearance of greater neatness through the symmetry produced by lines intersecting at right angles.

As intimated above, this method of housing small bird skins has some distinct advantages for the research student. The small containers prove of considerable convenience for removing portions of a large series requiring critical study. If the needed specimens are already in one or more containers, it is much easier just to lift these out bodily than it is to have to pick up each skin

and put it down elsewhere. Or, if individual skins are to be selected from various parts of a drawer, the small container makes a light, and easily carried receptacle for the chosen specimens. In various ways these containers are found useful in disposing of materials for special problems of study—systematic, geographical, plumage, economic, and so on.

It is possible to use similar containers of different dimensions for larger birds—those skins which lie in two rows in a tray. However, there is not so great a tendency for larger, heavier skins to be ruffled and jarred backward by the impact produced in sliding trays out and in. On the other hand, the various other advantages which are found useful for small birds are equally applicable to larger specimens.

A matter of considerable importance to the curator of a research collection is the knowledge of where every specimen is at all times. No specimen should be allowed to leave its appointed place without some means of checking its whereabouts. Besides the customary loan receipt for specimens sent to research students in other institutions, some kind of slip left in place of the removed specimen is of great help in keeping track of the particular skin during its absence, and in easily locating its proper placement upon its return. For this purpose our museum has had special withdrawal slips printed on bright colored cardboard, the bright color in a tray functioning quickly to catch the eye. The slips, made in two sizes, one for small, the other for larger specimens, bear the following legend, to be filled out by the person withdrawing the specimen.

UNIVERSITY OF CALIFORNIA—MUSEUM OF VERTEBRATE ZOOLOGY  
 SPECIMEN WITHDRAWN

No. . . . . By . . . . . Date . . . . .

Upon return of a specimen the withdrawal slip is removed. If filled out in pencil, this can be erased and the slip used again, or, if preferred, it can be filled out in ink and destroyed upon return of the specimen. The ease with which the position of a returned specimen can be located has been found to reduce considerably both time and labor of reinstallation.

Another improvement in curatorial method recently put into effect here pertains to the installation of sets of birds' eggs. This museum long ago adopted the round, glass-topped boxes for birds' eggs. These are lined with a fine-fiber white cotton to a sufficient depth to give an easy pressure to the eggs when the cover is adjusted. The difficulty of fixing the cotton pad so that it appears even and equally smooth all around the edge has been overcome by the use of a circle of thin cardboard. This circle is cut out in the center, leaving a narrow ring only, varying according to the size of box used. The outer edge of the ring is about four millimeters smaller than the inner circumference of the box. The method of preparation is simple: a small amount of cotton, nearly sufficient for the required depth, is fluffed up and laid evenly on the bottom of the box; then a fairly thick layer of cotton somewhat larger than the cardboard ring is spread on a flat surface with ring on top. The cotton is folded over the outer edge of the ring, care being taken not to pull it too tight and yet to make the edge even and smooth all around. When this is done, the whole is lifted and, with the aid of small curved forceps, is placed in the box, the forceps being used to push the cotton smooth around the edge. The eggs are then placed on the cotton, with the more pointed ends towards the center, and are held in place by a very slight lifting of the cotton wherever necessary to keep them from slipping out of position. They are then ready for the cover. Before placing the cover permanently it has been found desirable to turn it upside down and gently hold it on top of the box to see if the cotton is of the right depth—with not too much nor too little pressure upon the eggs.

*Museum of Vertebrate Zoology, University of California,  
Berkeley, California.*