Temporary Preservation of Specimens

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Methods are given on how to preserve birds found dead so that they may be sent to the State museum and provide useful scientific information.

Dead birds are often found on beaches, roads or elsewhere and, particularly with sea birds, difficulty is sometimes experienced in identifying them with certainty. In such cases, if possible, the whole bird should be kept to confirm the identification; a wing and the head are often not sufficient for this, especially with petrels. Road kills, if fresh and before the flies have found them, are valuable scientific specimens from which data of measurements and moult, etc., which may be lacking on older museum specimens, can be obtained. Birds which kill themselves against windows are also very valuable scientifically. Pigeons and cuckoos frequently fly into windows. In Sydney nearly all the records of the Superb Fruit-Dove *Ptilinopus superbus* and the Shining Bronze Cuckoo *Chrysococcyx lucidus lucidus* are of birds which have flown into windows.

All specimens should be sent to your state museum with a label attached to one leg giving species (if known), date of collection, locality, name of collector and, if possible, the colour of the bill, iris and legs.

Methods of Preservation

Alcohol

This is the simplest method of preserving any specimen, particularly when its condition is poor and only confirmation of identification is required. Make a longitudinal slit in the belly and drop the specimen into alcohol (Methylated Spirit will do). After two or three days or a week, depending on the size of the bird, the specimen can be removed and the alcohol drained from it (not dried). It should then be placed in a plastic bag, which is sealed with a rubber band. The sealed end is put to the bottom of a second bag, and this likewise into a third bag. The specimen may now be packed in a cardboard box and posted to your state museum.

Refrigeration

If a refrigerator is available the bird should be wrapped in newspaper, if possible, placed in a plastic bag and put in the chill or deep freeze. Wrapping in paper is important, especially if small birds are involved. If more than one are placed together inside a plastic bag without wrapping, they become a useless wet mess if they thaw out before arrival at destination. The specimens should be sent the quickest way possible, such as air freight or by passenger train parcel. They should be timed to arrive on a week day and not a public holiday; if possible the receiver should be notified of their despatch.

Formalin

This should not be used at any more than a 10% concentration (4% formaldehyde). It is made by mixing one part of formalin (40% formaldehyde) with nine parts of water. To this should be added a wetting agent such as a detergent at 4 ml (1 teaspoon) to 5 litres (1 gallon). The wetting agent breaks down the surface tension and enables the liquid to penetrate better and quicker.

Pickle

Specimens may be pickled in brine or a saturated solution of common salt to which

detergent or soap has been added as a wetting agent.

For small birds the best container to use is a wide-mouthed bottle, and for bigger birds a wide-mouthed polydrum similar to those used for home brewing. Alternatively a strong plastic bag, or several put inside each other, can be placed in a box and filled with sufficient preservative to cover the specimens. The box will keep the bags upright and prevent them from bursting. Care must be taken to ensure that the bills and claws of the birds do not puncture the plastic bags.

When more than one specimen is to be preserved, they should be kept separate by wrapping them in cheese-cloth or putting them into separate plastic bags in which holes have been made so that the pickle solution may enter. All birds put into the preserving fluid must first have a longitudinal slit cut in the belly to allow the liquid to enter quickly. Specimens should be left in the pickle solution for at least seven days and then packed as described for the alcohol method.

Cutting and Salting

If no pickle is available the stomach and intestines should be removed, taking great care not to disturb or remove the sex organs. The inside of the abdominal cavity should then be well salted and the specimen put in a bag or wrapped in paper to keep the flies away and kept in a cool place until it can be frozen or pickled. Even if no preservative is available the removal of the intestines and stomach will help to keep the bird in reasonable condition.

Injection

Freshly dead small to medium sized birds can also be preserved by injecting them with a preserving fluid.

Solutions which have been used successfully can be made up as follows:

1) 570 ml (1 pint) water
30 ml (1 fluid ounce or 8 teaspoons) Formalin (40% Formaldehyde)
4 ml (1 teaspoon) 50% Zalkan (Benzalkonium Chloride)
or
20 ml (5 teaspoons) 10% Zalkan

If 50% Zalkan is unavailable, the 10% solution can be obtained as a disinfectant from chemists under various trade names such as Zephyrin and Quatramine. The resulting solution is a 5% Formalin solution with 0.01% Zalkan.

2) 5 parts Formalin (40% Formaldehyde) by volume
5 parts melted phenol
5 parts glycerine
85 parts water

This again gives a 5% Formalin solution. The phenol helps to preserve the skin and keep it soft, but if not available it may be omitted.

Method of Injection

a. Plug the throat of the bird with cotton-wool.

b. Small birds: inject 1 ml of solution into the abdominal cavity, moving the needle around so that the fluid penetrates all parts of the abdomen.

c. Large birds from Yellow Robin size upwards inject plenty of solution into the abdominal cavity and a little into the brain via the eye and into the throat and thorax.

The specimen should be wrapped in paper and put inside a plastic bag and in very hot weather kept in a polyfoam cooler or Esky. Stored in this manner a specimen should keep a week or more. On return home the bag with the bird should be placed in the chill or deep freeze until ready for despatch to your state museum.

Removal of Intestines and Stomach

If the intestines and stomach are to be removed, the feathers should, if possible, be kept free from blood or other stains, as these may be difficult to remove later. This can be done as follows:

a. Plug the throat of the bird with cotton-wool.

b. Part the feathers on the belly from the breast to the vent.

c. Wet these feathers with alcohol (methylated spirit will do) to keep them apart. (Alcohol wets feathers better than water, and the feathers dry out free again.)

d. Cut a longitudinal slit into the belly cavity from breast to vent.

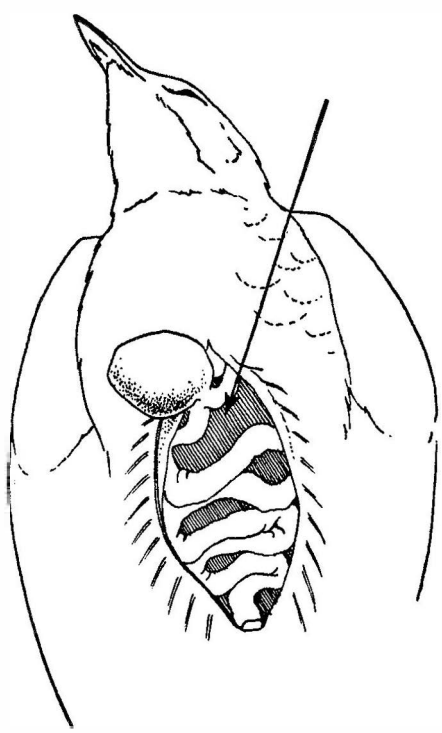
e. Take a pad of cottonwool of suitable size and thickness and make a hole or slit in the centre. Place the pad over the bird matching the slit in the cottonwool with the slit in the belly of the bird.

f. Grasp the intestines with forceps and pull and lift them out onto the cottonwool. When this has been done remove the cottonwool with the intestines.

g. With care the stomach may now be held with the forceps and cut out carefully with scissors. Great care must be taken not to disturb the anterior end of the kidneys, as this is where the testes and ovary are found. In young birds, or during the non-breeding season, these may be very small and easily lost. Details of location of sex organs are shown in Figure 1.

h. The specimen may now be sexed, but this is best left to the expert. A specimen loses much of its scientific value if the sex cannot be determined.

i. The cavity may either be filled with clean cottonwool and the specimen kept in the freezer, or a piece of cottonwool may be soaked in injection fluid and placed inside the cavity with a dry piece on top. A large specimen should then be injected with preserving solution as described above.



● Figure 1. *Diagram showing approximate location of sex organs (under stomach and intestines).*

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