Avian Egg Collection

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Introduction

Avian eggs are a common sample matrix for contaminants analysis. An accurate analysis depends upon getting the egg contents from the shell to a clean sample jar without introducing other sources of contamination.

Materials and Equipment

1) GPS unit
2) permits
3) field data sheets, writing instruments (pencils/pens/permanent markers)
4) padded egg collection boxes (hard-sided container, e.g. egg cartons, Tupperware or tackle box, with foam padding)

Procedures

1) Collected eggs should be whole and not cracked. Depending upon your sampling scheme, you may collect fresh eggs or eggs with well-developed embryos. Eggs with late-stage embryos can be recognized at time of collection using egg floatation methods (Custer et al. 1992), collecting from unfinished clutches, etc.), or you may target addled eggs (eggs that failed to hatch), or all of these types of eggs. The best eggs for contaminants analysis are not cracked, since cracking increases variation in percent moisture, and may lead to leakage or contamination of the contents. Eggs with well-developed embryos can be examined for gross abnormalities and malpositions of the embryo.
2) A preformatted field data sheet will be filled out that will include a unique nest/egg identification code, location (using GPS coordinates for the nest), date, number of eggs in the clutch, and initial estimation of incubation stage.
3) In the field, mark eggs with unique identification code, date, and number of eggs in the clutch and place in egg container.
4) Transport to lab in hard container with sufficient padding.

5) Refrigerate eggs until opened, ideally no longer than seven days.

References

Custer, T.W., G.W. Pendleton, and R.W. Roach. 1992. Determination of hatching date for eggs of black-crowned night-heron, snowy egrets, and great egrets. J. Field. Ornithol. 63:145-154.