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PALÄONTOLOGIE & GEOBIOLOGIE



Sample preparation in DMSO-NaCl buffer (DNA preservation)

- Take animals not out of water after collection, if at all possible (dive).
- Transfer to lab in bucket or so.
- When in lab take them out of the water, quickly remove as much excess seawater as possible. If smaller specimens you can do that by putting them briefly on a Kimwipe (lint-free paper).
- If the animals or the desired tissue to be dissected are thicker than 0.5 cm in any direction, cut them into smaller pieces with a sterile scalpel on a sterile surface.
- Be as quick as possible with dissecting and subsequent preservation.
- Cut tissue into small pieces, cubes of max 0,5 cm and drop pieces immediately into vial filled with DMSO buffer. Small tissue pieces will allow quick penetration of buffer and good preservation of the DNA. THIS IS CRITICAL! Also make sure there is enough tissue to liquid ratio (about 1:5) in the end.
- Do not overfill vials with tissue! For DNA extraction only small pieces of tissue are needed. 1-2 0,5cm sized tissue cubes are enough.

Preparation of DMSO storage buffer (Adapted from Seutin et al., 1991)

20% DMSO, 250 mM EDTA, up to 210 gr. NaCl, dH₂O

DMSO buffer is SATURATED with NaCl. In practice this means about 210g or more per liter. It takes a while (hours or more) to go into solution. Make up a 0.5M EDTA (pH 8.0) solution first, then add DMSO and NaCl to half of this, adjusting the pH to 8.0 as you go - it will help dissolution. Final pH should be 8.0.

Place the sample in a tube (with a lid that seals water tight), and add enough DMSO storage buffer to cover the sample. Samples can be transported in this solution and stored at room temp for up to 2 weeks, then should be placed in a 4°C refrigerator.

Seutin, G., White, B.N., and Boag, P.T. (1991). Preservation of avian blood and tissue samples for DNA analyses. *Canadian Journal of Zoology* 69:82–90.

Send samples then to:

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