

INVESTIGATION OF THE NATURE OF BACTERIAL FLORA IN THE MOUTHS OF SOUTHERN FUR SEALS AND ELEPHANT SEALS

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Introduction: Staff of the British Antarctic Survey working in and around southern ocean mammals are at risk of serious infection from bacterial strains. Medical evacuations have occurred following staff being bitten by such mammals with wounds not responding to usual medical treatment. Osteomyelitis requiring high dose intravenous antibiotics followed by repatriation to the UK has been the end result. To investigate why these infections should be so indolent and resistant to treatment, and to inform improvements in medical treatment for such incidents, mouth swabs from such mammals taken during the 1990s from Signy Island (Lat' 60 43'S , Long' 45 36'W) have been analysed at SAC Veterinary Services Inverness Scotland UK, to isolate the bacteria involved.

Methods: Freeze-dried vials of mouth swab material were reconstituted to inoculate an agar base. Cultures were examined for diversity of growth daily for 4 days and periodically up to 14 days. Each morphologically variant colony was selected for purification. Isolates were characterised using a mixture of phenotypic tests including cellular morphology, gram reaction, growth at different atmospheres, temperatures and media plus traditional biochemical tests and commercial strips. Results were compared with published material and data from over 2500 bacterial isolates recovered from marine mammals, mainly from the northern hemisphere. Antibiotic sensitivity testing was carried out on all isolates against penicillin, erythromycin, amoxycillin/clavulanic acid, clindamycin, ceftriaxone and tetracycline.

Results: The final test results are not complete at time of abstract submission but will be available at the SCAR/COMNAP meeting in Hobart July 2006.

Discussion: The isolation of the unknown unique bacterial flora mentioned above will allow more appropriate and targeted medical treatment for staff being bitten by such mammals, possibly avoiding the requirement for medical evacuation from remote sites and help to minimise long term health complications.