EMERGING DISEASE DISCOVERED DURING PRELIMINARY BASELINE HEALTH INVESTIGATIONS OF SEA TURTLES IN WESTERN AUSTRALIA

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The status of sea turtle health in Western Australia is largely unknown, particularly for the endemic flatback turtle (*Natator depressus*). Anecdotally, the causes of illness, injury and death in WA turtles are comparable to those in other parts of Australia and the world (e.g. spirorchiidiasis, fibropapillomatosis and marine debris ingestion) but no scientific studies to validate these reports have been conducted in this region. Causes of both live and dead turtle strandings in WA are investigated through an array of veterinary diagnostic techniques including necropsy, clinical pathology, diagnostic imaging, histopathology, parasitology, microbiology, toxicology and molecular analyses. In addition, we determined baseline levels of health and disease for specific populations, predominately nesting and foraging flatback turtles. Disease investigations incorporating microbiological and molecular techniques identified a novel bacterium, *Streptococcus iniae,* as the cause of a mass mortality event in the Kimberley region of northwest WA in March 2016. During this event, dead and dying marine life was found in the region comprising 14 sea turtles (including juvenile flatbacks), 18 sea snakes (including *Aipysurus laevis* and *Hydrelaps darwinensis*), approximately 17000 fish of numerous species, as well as other marine species. This is the first report of *S.iniae* occurring in marine reptiles and as a zoonotic pathogen has implications for public health. This study is the first statewide health and disease investigation in WA and the eastern Indian Ocean and will bridge knowledge gaps for the health status of turtle populations at a regional scale. The discovery of an emerging disease has further highlighted the importance of disease surveillance and this research.