
THE GLOBAL PROBLEM OF CNIDARIAN (JELLYFISH) STINGING

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This MD Thesis was completed in Mackay, north Queensland for the University of London in the period June 1996 to June 1997. It was prepared under the Supervision of Associate Professor Struan Sutherland and Dr James Tibbals of the University of Melbourne, together with the Advice of Professor Anthony Brycesson of the London School of Hygiene and Tropical Medicine

ABSTRACT

Data collection for these studies began with designed forms, which were sent to coastal tropical Hospitals, Ambulance Stations and Surf Clubs requesting information on marine stings and jellyfish sightings; returned forms were recorded on a database. Intended for north Australia, the survey expanded to Australia and later became International.

Data extracted updated information on jellyfish distribution and sting occurrence worldwide. Strategies on prevention of envenomation, as well as the most effective first aid and medical treatments could thus be developed for relevant geographic areas.

During the study it became apparent that jellyfish taxonomy, particularly in those jellyfish causing mortality and/or serious morbidity, was confused. As first aid and medical treatment is most effective when the identity of the envenoming jellyfish is known, knowledge of jellyfish taxonomy became necessary. Serial serological studies were used to identify unknown jellyfish after the actual envenomation.

The taxonomy of *Physalia* spp. remains unclear, but medical differentiation is necessary as one species causes minor skin pain and nausea, the other causes severe skin pain, muscle cramps, breathing difficulty, anxiety, sweating, back pains and human fatalities.

Chirodroids worldwide, whatever genus or species, appear to cause similar, if not identical symptoms. Thus the first aid and medical treatments suggested should prove effective for all chirodroid envenomations regardless of geographical location. Methods suggested here, promoting awareness and prevention have contributed to the reduction of mortality from chirodroid envenomation in Australia by 30% over the past ten years, and should prove effective elsewhere. However continued seasonal promotion remains essential.

Investigation into Irukandji envenomation and the developed treatment should also be effective in similar syndromes from other jellyfish species, including *Gonionemus* in the Japan Sea, *Tamoya*, *Carybdea* and other large carybdeid species world-wide, *Stomolophus nomurai* in the China Sea and *Physalia physalis* (world-wide).

Jellyfish envenomation emerges as a significant global medical problem. Despite this, research remains vestigial and undergraduate and post-graduate medical teaching conspicuous by their absence.