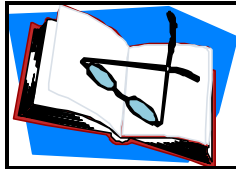


Jellyfish Sting Newsletter

No. 21

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Significant Papers Published



1. **Matsumoto G.I. Observations on the anatomy and behaviour of the cubozoan *Carybdea rastonii* Haacke. Mar. Fresh. Behav. Physiol. 26:139-148, 1995.**

The cubozoan *Carybdea rastonii* occurs throughout the Pacific and is very abundant in areas of South Australia. *C. rastonii* has been observed feeding in the field on mysids, larval fish and on *Artemia* in the laboratory. The medusae occur in swarms and are closely associated with sand patches during the day (But are not capable of attachment like *C. sivickisi*) and move up to the surface at dawn and dusk. The species is dioecious and the males secrete a sperm strand that may be picked up by the female. This study provides some preliminary observations on the behaviour and ecology of the cubomedusan *Carybdea rastonii* to stimulate further research on the mechanisms of sensory perception within the order Cubozoa. Observations on the nematocysts and the optic system are presented along with field and laboratory observations on anatomy and behaviour. The evidence for the role of vision in cubozoan behaviour is discussed.

2. **Fenner P.J. Causes of and treatment for marine wounds. Primary Intention. 142-146, December 1998.**

Wounds may be caused by a variety of marine organisms and includes stings, penetrating wounds and lacerations. Marine wounds may behave differently than those caused by land-based animals. The causes and effects of marine envenomations, together with a treatment of the acute wound and its possible long-term

complications, are discussed. Specifically, these authors are discussing the box jellyfish, *Pelagia* and *Physalia*. The lacerating wounds from stingrays and stone fish are included. Tissue infections caused by oceanic bacteria are also discussed.

3. **Currie B. Box-jellyfish in the Northern Territory. The Northern Territory Disease Control Bulletin Vol. 5, No. 3, September 1998.**

An excellent discussion of the treatment and incidence of box jellyfish stings in the Northern Territory is included in this article. The final page shows a box chart which is an excellent guide for therapy.

4. **Burnett J.W., Purcell J.E., Learn D.B. and Meyers T. A protocol to investigate the blockade of jellyfish nematocysts by topical agents. Contact Dermatitis 40:56-57, 1999.**

A protocol was developed to establish the effectivity of topical agents to block nematocysts firing from jellyfish. A laboratory test procedure using human volunteers is described. Recommendations that agents found effective in this system be tested in a similar manner on swimmers was included.

5. **Puertas L.S., Burnett J.W. and Heimer de la Cotera E. The medusa stage of the coronate scyphomedusa, *Linuche unguiculata* ('Thimble Jellyfish') can cause seabather's eruption. Dermatology 198:171-172, 1999.**

Adult *Linuche unguiculata* medusae cause seabather's eruption just like that animal's larval form. This observation explains the wide seasonal incidence of the disease and the fact that lesions can appear on exposed skin.

6. **Hodgson, W.C. Pharmacological actions**

of Australian animal venoms. **Clinical and Experimental Pharmacology and Physiology** 24:10-17, 1997.

A very brief review of the toxinology *Chironex* venom is introduced in this paper.

7. 1. **Othman I., Fathilah A.R., Mohd S. J., Mohd Y.M., Mustaffa M.R. and Azila N. Studies on the venomous coelenterate: *Rhopilema hispidum*. Journal of Natural Toxins, 5:361-75, 1996.**

Contact with the tentacles of this jellyfish causes edema and severe stinging pain with a burning sensation which recedes after 2 hours. Ultrastructural studies on the tentacles of the *Rhopilema hispidum* has been carried out at the scanning and transmission electron microscope level. These studies have shown that *Rhopilema hispidum* contains 3 types of nematocytes: atrichous isorhizas, holotrichous isorhizas and heterotrichous microbasic euryteles. Tentacular crude extracts obtained exhibited toxicity, hemolytic activity and a relaxant effect on the phenylephrine-induced contraction of the smooth muscle of the rat aorta. After ammonium sulphate precipitation, the partially purified extract was fractionated on an S-Sepharose column which separated a toxic protein component of 37.5kD on SDS-PAGE, that exhibited a high haemolytic activity of 222.2 U/mg protein. This fraction was also found to cause a relaxant effect on smooth muscle of rat aorta which was dose - and temperature - dependent. However, removal of the endothelium and treatment with methylene blue inhibited the relaxant effect suggesting that the active component releases mediators such as cGMP to induce relaxation.

Correspondence



1. An article describing a patient with keratitis from a coral sting will shortly be described in an ophthalmological journal. The patient had a leaky diving face mask.
2. John Serton is currently composing a textbook on jellyfish to be written in Dutch. The author works in the Netherlands Ministry of Defense. This volume will contain excellent references and pictures.
3. Dr. Morris of Baltimore has examined a 20-year-old woman who was stung on the right wrist by *Physalia*. Within three days there was numbness distally down into the dorsal hand and slightly proximal to the sting site. This injury has persisted at least three days. Another female case with nerve loss after jellyfish stings!
4. An article by our group citing the beneficial effect of verapamil against the box jellyfish cardiotoxin will shortly be published in *Toxicon*. David Bloom and I have also observed that an older, expired (CSL) box jellyfish antivenom was more effective blocking box jellyfish induced human erythrocyte hemolysis than a fresh ampule.
5. Hermes Mianzan will soon report an outbreak of stings following exposure to *Liriope tetraphylliae* and also a protective effect for vinegar against nematocyst firing for *Olindias*. The latter is co-authored by Peter Fenner.

JELLYFISH STING NEWSLETTER ON THE WORLD WIDE WEB

All Jellyfish Sting Newsletters from Number 1 to Number 21 are accessible on the WWW at

[Http://www.jcu.edu.au/dept/PHTM/ACTM/JFN/jfn.htm](http://www.jcu.edu.au/dept/PHTM/ACTM/JFN/jfn.htm)

This format allow the inclusions of colour images and links to other web pages.

The site is administered by the **Australasian College of Tropical Medicine** with Rick Speare as webmaster. Rick can be contacted by email at richard.speare@jcu.edu.au.

The International Consortium for Jellyfish Stings will also begin placing the
**JELLYFISH STINGS
NEWSLETTER**
on the Department of Dermatology Web-page
at the University of Maryland.

(www.som1.Umaryland.edu-->Clinical
Departments---->Dermatology