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<b>Title: The Most Venomous Marine Animal Known: Box Jelly Fish</b>
<b>Byline: By Alastair Gray</b>
<b>Standfirst:</b> Alastair Gray: “In the 18 provings I have conducted over the years, this remedy, <i>Chironex Fleckeri</i> , (Ch-fl), the box jellyfish, stands out as being the most dramatic and the most colourful. At a time when, for whatever reason, all sorts of bland substances are being proven, this medicine just begged for a Hahnemannian trial. Firstly, there is the sheer toxicology of it. It kills, and in record time. Then there is the bizarre signature: it is a bag that floats; it hunts and propels itself through the density of water. Then we find it gives you an erection that lasts for a week. Throw away your Cialis... burn your Viagra? What follows is an introduction to the remedy and proving.” <sup>1</sup>

### **The Sting**

Male, 21, swallowed a box jellyfish tentacle stored in a coke bottle in a fridge: “Then the pain hit. I dropped the bottle and fell to the floor, grabbing my throat and screaming in agony. Imagine the pain from a broken arm but a million times worse. It felt as if someone had forced red-hot razor blades down my throat. I was shitting myself. All I could think was I was going to die... I was struggling to breathe. Normally your airway is the size of a 20 cent piece, mine was 5 cents. First my chest went numb, then my whole body... Nobody knew what to do with me. Some people thought I should drink vinegar, others thought I should have oxygen. Problem was no one had ever swallowed a tentacle before... the ambulance got to me in eight minutes, and that was from Tully 28 kilometres away. The guys put me on oxygen set to 28L a minute to force my airways open. Normally people will go on 14L a minute, but I needed more because I was blacking out and my breathing was packing up... I woke up in intensive care two days later... it was a miracle I survived.” (*Ralph* magazine, August 2001)

The box jellyfish is one of the most venomous creatures on the earth. It has killed over 70 people in northern Australia since 1900. It looks like a plastic bag with strings hanging off it but can grow as large as a two-gallon bucket and weigh up to

<sup>1</sup> The full proving manual can be purchased individually in book form or electronically, or alternatively purchased in Clinical Manuals in Homeopathic Medicine Volume One along with the provings of White Tailed Spider and Moreton Bay Fig. [Contact [alhomeoz@ihug.com.au](mailto:alhomeoz@ihug.com.au)]

6kg. It has four bundles of tentacles with up to 60 tentacles in total. Each tentacle is covered in millions of stinging capsules that inject venom through a tiny thread that pierces the skin. First the venom attacks the heart, sending some victims into cardiac arrest. It then paralyses the breathing. Finally it destroys red blood cells resulting in skin necrosis, which causes severe scarring. Each box jellyfish contains enough venom to kill three men. If more than 10% of the victim's skin is stung, they will die within half an hour from respiratory failure. A child will die in minutes. Survive the sting without anti-venom and the skin will ulcerate and look like it has been lashed with a burning whip: "The pain can only be described as exquisite."<sup>2</sup>

Imagine diving into the sea to cool off in the tropical waters of northern Australia, swimming in the sun, and then, four minutes later, not only are you dead but your manner of death the most gruesomely painful imaginable. Death by jellyfish. This jellyfish is *Chironex fleckeri* or box jellyfish. The order is Cubomedusae. The species is *Chironex fleckeri*. The common names are Fire Medusa, Indringa, Sea Wasp.

**Local Symptoms of box jellyfish sting:** Red, purple or brown multiple interlacing whiplash lines about 5mm wide develop within seconds. These characteristic markings last for some hours and are a beaded or ladder pattern and may develop into large weals, fading if the victim dies. After 7-10 days, necrosis and ulceration develop over the area of contact and often takes on a whitish, frost-like appearance. The skin lesions may take many months to heal if deep ulceration occurs and itching may also constantly reoccur. Pigmentation and scarring at the site of these lesions may also be permanent (Edmonds (1989:84).

**Box jellyfish sting symptoms:** Excruciating pain dominates the clinical picture. Impaired consciousness is followed by coma and death. The pain increases in intensity over the first 15 minutes, often coming in waves and diminishing in 4-12 hours. Amnesia occurs for most of the incident and if death occurs, it usually does so within the first ten minutes. Survival is likely if spontaneous cardio-respiratory activity is present after the first hour.

The victim may develop cardiac shock, and appears cold and clammy, with a rapid pulse, and a disturbance of consciousness. It is also possible that the cardiac state may oscillate within minutes from episodes of hypertension, tachycardia, rapid respirations and normal venous pressure to hypotension, bradycardia, apnoea and elevated venous pressure. The oscillation may give a false impression of improvement just prior to the victim's death.

Respiratory distress, pulmonary congestion, oedema and cyanosis may be due to the cardiac effects or to a direct mid-brain depression. Paralysis and abdominal

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<sup>2</sup> Greig Follas, New Zealand Homeopath

pains may occur and malaise and restlessness may persist with physical convalescence required up to a week. Irritability and difficulty with psychological adjustment may take weeks or months to disappear (Edmonds, 1989:84).

According to Hanmer (1994:127), anti-venom was developed in 1970 by scientists at Australia's Commonwealth Serum Laboratories. Sheep were injected with nonfatal doses of venom and produced antibodies that are used to manufacture anti-venom. When injected into a box jellyfish victim, normal breathing often begins almost immediately, pain relief usually occurs within minutes and later scarring is frequently reduced.

### **The Trial<sup>3</sup>**

What is *not present* is often even more revealing than what *is present*. In this proving there are no ear, urine, heart, neck, perspiration, chill symptoms, only two back, and one respiratory symptom. There are strong mental, vertigo, throat, stomach, chest, and burning symptoms. Of course we have another very underused and unknown jellyfish in our materia medica: *Medusa*.<sup>4</sup> Box jellyfish may be compared to other sea remedies in particular symptoms:

Sneezing: astac, lim, pect, ch-fl

Mucous tenacious, clear: astac, lim, hom, pect, ch-fl

Flushing of face: astac, aster, lim, ch-fl

Nausea and vomiting: astac, ch-fl

Pain, stinging: hom, aster, astac, ch-fl

Burning sensations: astac, hom, lim, pect, ch-fl

Urticaria: astac, hom, lim, medus, elat, ch-fl

Male and female sexual desire increased: murex, astac, aster, salmon, ch-fl

Female organs affinity: aster, sep, salmon, ch-fl

Sensitive to noise and music: ambr, ch-fl

Anxiety in the chest: astac, ch-fl

Vertigo: ambr, aster, salmon, ch-fl

Nausea and constipation: aq-mar, sep, ch-fl

Affections of the breast: murx, medus, sep, ch-fl

Approaching misfortune: elat, aster, ambr, ch-fl

Melancholy: aster, astac, ambr, gad, lim, sep, ch-fl

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<sup>3</sup> For the methodology of the proving, the collection of the substance which was prepared by the good folks at Simillimum Homeopathic Pharmacy, (call them for details +64 4 4999242) and the trial, see the proving document. When it came to the Nature Care College proving for 2001 there were three choices of new remedy; MDMA, Blatta and Box Jellyfish. Box Jellyfish was eventually and blindly chosen.

<sup>4</sup> The information we have of it comes from a poisoning in 1842 and is listed in Allen. Known for its use in the treatment of nettle rash, and urine difficulties, toxicologically it affects the speech, and creates anxiety, and there is an affect on the urinary tract and the breasts. There is also an indication for prickling on the skin, numbness and burning sensations and oedema. Close remedies are listed as *Astac*, *Homar*, *Murex*, *Sepia* and *Apis*. It is not listed in Hering.

Sexual desire resembling an irresistible power, giving rise to ideas of violence,  
 despair: aster, ch-fl

## Proving Extracts

**Place summary in side column**

Key Elements Of Ch-fl
Immediate primary symptom: life incredibly good, easy, lightness. Polarity: heavy, foggy, overwhelmed
Unrestrained and compulsive sexual desire
Mistakes, guilt, frustrated, alone, impatient
Anger & Aggression: build-up leads to sudden explosion
House, home, family, livelihood, children
Restless/Unable to focus. Focus and concentration ameliorate.
Desire to clean/de-clutter
Nausea with eructations, flatulence and urgent desire for stool. Abdominal discomfort.
Vertigo, light-headed, spacey
Flushing: face and head
Oppression sensation: chest > deep breathing
> Open air. Desire to go to beach and > at beach
Burning sensations and heat

**Creating Order:** “Woke up in the middle of the night. Suddenly feeling terribly sick, I thought I might throw up, but I ended up doing a whole series of the most awful farts and then had to run to the toilet. Runny stool: disgusting, bad smell. My stomach and abdomen were rumbling. Burning pain on stool. This all took an hour or more in the middle of the night, but as I was trying to recover I suddenly decided I had to clean the bathroom, and I did: cleaned everything, at 3 in the morning.

26:30c:xx:xx:xx.

“I am determined to move clutter which has long been a stress to my equilibrium. The back room, a repository of any and everything, becomes involved in the sorting. My partner gets agitated (as he does when I want to get rid of things) and doesn’t want to look at them now. I say: it was now or never. A plastic bag of tapes (one of many) I asked him to put somewhere else - he put back where I was sorting. So I picked it up and dropped it out the window. He flew into a rage and was the most reactional I’d seen him in a long time (I enjoyed this). I realise that I often do things to try to get a reaction out of him. I was non-reactional and ignored him and he stormed off to cool down. The whole thing felt ridiculously childish and out of control. When he returned we talked and apologised to each other. I let him know how this sorting and ordering of things was very important to me at the moment and that I needed a bit of co-operation, he said how he felt. I actually felt that we achieved some real resolution-unlike usual where a stalemate ensures.”

10:30c:06:xx:xx

**Aggression/anger:** “Sudden attack of anger with my ex-girlfriend. After a futile discussion about the washing machine, she really pissed me off because she was saying that I stained some towels. Despite this I did not feel really upset or out of control. I got really aggressive with her and I nearly hit her. I felt like I had to discharge something that was inside me for a while, like a strong tension. It took a while to calm down; I had to smoke a cigarette. > Smoking tobacco.”

06:30c:04:XX:XX

“I have been very quick tempered in conversation with my wife over a very small issue, I couldn’t shut the drawer, there was a spoon sticking out, I threw it across the room, had a tantrum.” 30:30c:00:12:XX

**Compulsive unrestrained sexuality:** “I am back on the train, to see a friend of mine, and suddenly I start feeling strangely and very strongly excited at the sight of women. I feel compelled to approach one of them but I am strongly attracted by all of them. I am embarrassed because I realised that is not normal. Though I want really to talk to every girl that passes by on the train and at the station. I feel very strongly sexually driven, and I have to restrain myself really hard to avoid going and talking to them. I felt like an animal ready to mate. I wanted to jump at girls. There was the possibility of a sexual attack. Gradually after getting off the train and out of the station, I start feeling a bit more relaxed while walking in the open air.

An hour after the beginning of this weird experience I was able to look at girls on the street without having any animal instinct towards them. >Open air, walking.” 06:30c:05:XX:XX

“Suddenly I start feeling like yesterday, very unstable emotionally, between sadness and excitement at the sight of women. The sensation is more confused this time. I feel weak as well. It is all mixed up like the sensations I had yesterday all coming up alternated and blending together for about half an hour. Then slowly, gradually feel fine again.” 06:30c:06:XX:XX.

“I was in bed, and started feeling incredibly nauseous, burping and farting, I had to run to the bathroom and ended up squatting on the floor for a while, sweating and with vertigo. I tried to throw up. I ended up passing a stool but it was bad and burning and runny. I went straight back to bed with the most outrageous sexual desire, at the same time as being nauseous. This was so strange. I am embarrassed but I just grabbed my girlfriend, there was no niceties at all it was just an outrageous urge for sex. I just ravaged her. Nausea and sexual desire. Ferocious. She was bewildered, compliant but happy.” 26:30c:xx:xx;xx

**Vertigo:** “Very odd sensation in my head, as falling backward. More precisely like something pulling my head from behind, starting from the forehead till the occipital head like a strong wave, moving backward. It lasted one or two seconds. It came back after approximately a quarter of an hour exactly the same and no other sensation left behind.” 06:30c:01:05:30. “I have been feeling very slightly light headed all morning. It is spacey and vertigo. I got to a lift – then rocked forward and backwards then got centred. Very wobbly on my feet. Proprioception not very good.” 30:30c:00:15:XX. “Light headed, spacey, faint feeling for 5 minutes (like on Mersyndol). Sensation as if it could get worse. A little out of control feeling.” 12:30c:00:02:00. “Vertigo, light headed and dizzy getting up from seat. I may just need to eat.” 12:30c:01:02:30. “Pressure in the head with the light headedness and vertigo. I can’t put my finger on it but I feel a bit wobbly.” 30:30c:01:XX:XX

**Heat, burning, stinging and flushing:** “In the last 45 minutes my face start feeling warmer and warmer especially in the cheeks. It feels warm at the touch. I am compelled to have a look in the mirror to see if they are red. The only part of my face, which is red, is actually the cheeks.” 06:30c:01:12:00 “The heat in my face is more intense now. It is more intense in the right side and all my face is involved. < Right side. Quickly the heat spread downward to the all body. I feel feverish like, but I check the temperature and it is normal.” (36.3 C). “The pulse is regular and not faster than usual. It is actually a pleasant sensation, I feel lighter and warmer all over like floating. I start listening some music, which makes me feel like dancing, more than usual. Duration of the episode approx. 10 minutes. > Music.”

06:30c:01:12:35. 10:30c:00:09:30 “Some burning sensation on left forehead. It’s better for rubbing.” 10:30c:02:xx:xx “A chemical-like burning sensation eyebrow

(left) descends to cheek, lasts for 30 sec -1 min. Feels like something put on the skin from the outside-feels like an insect sting, e.g. caterpillar. Flushed and burning, red face and cheeks duration for 2+ hours. Clammy and hot to touch.” 22:07:xx:xx

**Mouth:** “My tongue this morning was burnt or bruised, like an acid, as if I have taken too much candy.” 06:30c:06:XX:XX “Tongue - left side, one spot, tingling and burning, felt like an ulcer developing. The sensation is similar to when you have scalded your tongue with hot liquid the day before.” 12:30c:00:01:30 “The tip of my tongue is now tingling as if burnt. I think an ulcer may be developing on the left side, nothing unusual in the appearance.” 12:30c:00:08:30 “Scalded tongue sensation > PM. Tingling increased on tip of tongue over 1/3 of tongue, lessened in the evening, conscious of it.” 12:30c:01:23:xx

**Stomach/Appetite:** “During the heat sensation in my face, the appetite is erratic. I feel very hungry one moment, like the gastric juice has been released and suddenly the appetite is completely gone. After few minutes the appetite is back again, but few minutes later is gone again, I do not know what to do about dinner, indeed I haven eaten yet but I do not know what to do.” 06:30c:01:12:00 “Suddenly as soon as I started eating a grapefruit, I feel extremely weak like I am having a hypoglycaemic attack. I cannot talk and reason properly. I feel sluggish when I try to concentrate and saying something. I cannot concentrate and I start feeling sick like vomiting but nothing happens. Of course I stopped eating immediately and the friend I was talking to told me that I did not look alright at all. She was a bit concerned. The nausea and weakness went on for about five minutes after that gradually disappeared as nothing happened and I had my lunch without problems. < Concentration, mental effort.” 06:30c:05:XX:XX

“Suddenly for no apparent reason I feel nauseated. I feel like I could easily vomit. I also start feeling very tired, but I do not want to go to bed with strange sensations. I feel cold all over and in my hands. In about half an hour gradually all the symptoms disappeared and I feel good. I feel like having something to eat.” 06:30c:07:XX:XX “This morning I felt really tired and achy and I could not get up easily. They are like flu symptoms. The aches and pain all over like bruised and heaviness in the back especially the spine and also empty-headed. After breakfast if feel 50% better physically but still sluggish. The aches and pains are strangely gone. > after breakfast.” 06:30c:08:XX:XX “A mild sensation of nausea persists since after breakfast. It comes and goes at intervals of about 20/30 minutes. It lasts a maximum of 5 minutes and gradually disappears. Another symptom that has been persisting is bloating. I have been passing foul wind quite regularly. I managed to pass stools and they are watery not very smelly and with undigested food in it. Come on suddenly and disappear gradually.” 06:30c:08:XX:XX.

**Abdomen:** “I have just taken a dose of the remedy about fifteen minutes ago, and I feel like a blow at the solar plexus. It is like when one is anxious, but felt more

physically. Similar to a stab of a knife, but softer, entering for a fraction of a second. I took immediately a deep breath in as a reaction and it disappeared. > For deep breaths. 06:30c:00:00:15. I am still bloating, My abdomen is slightly achy but after I massaged it for few minutes and after the initial discomfort at the touch, it relaxes and feels much better. The ache is almost completely gone, after I pass stools again. These are quite normal now light brown, the bloating is nearly gone and also mentally I feel completely better no light headed. > Gentle touch and rubbing. 06:30c:08:XX:XX

**Chest:** Sensation around chest/heart of heaviness and oppression - I felt like I needed to take a deep, long breath to breathe it out, blow it out. The intensity is about (1). It seems < for deep inhalation, and > sitting. (NS) 04:30c:00:05:39. Again feel I want to breathe this feeling out from my chest. It's not painful, but I would rate the intensity now as (2). > Deep expiration." 04:30c:00:06:04. "Occasionally feel I still have to breathe out sensation in chest, but definitely not as intense as before - intensity of about (1)." 04:30c:00:10:19. "I have noticed that the feeling of oppression in my chest has come back and I feel I need to breathe out deeply once again. Noted the following in regards to mind symptom, *maybe I can blow her away* (when I was in clinic observing patient that was annoying me)." 04:30c:02:10:XX

**Generals:** "The heat in my face is more intense now. It is more intense in the right side and all my face is involved. < Right side. Quickly the heat spread downward to all the body. I feel feverish like, but I check the temperature and it is normal." (36.3 C). "The pulse is regular and not faster than usual. It is actually a pleasant sensation, I feel lighter and warmer all over like floating. I start listening some music, which makes me feel like dancing, more than usual. Duration of the episode approx. 10 minutes. > Music." 06:30c:01:12:35. "Suddenly for no apparent reason I feel nauseated. I feel like I could easily vomit. I also start feeling very tired, but I do not want to go to bed with strange sensations. I feel cold all over and in my hands. In about half an hour gradually all the symptoms disappeared and I feel good. I feel like having something to eat." 06:30c:07:XX:XX

It is quite a constellation of symptoms: Unrestrained animal sexuality; vertigo, nausea, and the desire to clean; amelioration from deep breathing. Early clinical experience confirms these symptoms. The complete profile will emerge over time as more clinical results are reported and collated. Any clinical information please send to Alastair Gray, 9 Numa St Birchgrove Sydney NSW 2041 Australia.

**Note to printers: Please place the natural history below separately, in its own grey box, as part of the lay-out; font may be smaller than the rest if necessary. If there isn't space, we may need to lose this section:**

## **Natural History**

Box jellyfish are very difficult to see in ocean waters as they are pale blue and transparent. They are shaped like a bell, or cuboid, with four distinct sides, and can measure up to 20cm along each side. Pedaliums are projected from each of the four corners of the cube or bell and may contain up to as many as 15 tentacles each and be three metres in length (Australian Institute of Marine Science: 2001). Box jellyfish are strong and nimble swimmers and can zip along in bursts of up to five feet per second by alternatively filling the bell with water and expelling it (Hamner (1994:120).

According to Dupont (1999), the box jellyfish has eight eyes which consist of a compound pair of primitive eyes on each side of its cube like bell; one looking up, one looking down and looking inwards through its own transparent tissue and out the other side. But there is no brain to organise or interpret visual signals. There is no thought involved, or central nervous system, but there is a nerve net in the tissue that acts as a simple feedback loop, a reflex action. It is believed that swimming behaviour is changed when a shadow crosses the eye, as the muscles on the particular side, or the opposite, start to contract and pulsate, causing the animal to turn.

Experiments of isolated groups of up to twelve box-jellyfish in tanks under controlled lighting conditions have taken place with various sized black or white shapes at either end and outside the tanks. In every case the box jellyfish quickly retreated from the dark shapes and ignored the white ones and the larger the dark shape, the further and faster they swam away. The box jellyfish most likely avoid larger black shapes to escape from predators such as turtles or fish or to navigate around obstructions. As the box jellyfish consists of delicate tissue that is easily damaged by abrasion and prone to bacterial infections, it is assumed the box jellyfish manage to avoid people most of the time but those that are stung are usually running or jumping wildly into the water straight into a box jellyfish (Dupont:1999).<sup>5</sup>

According to Hamner (1994:118), the box jellyfish is the most venomous animal on earth as no other animal's venom can kill a human in four minutes or less. The box jellyfish has killed at least 65 people in the past century but it wasn't until 1956 that the species was described and identified as the creature that inflicted such excruciating pain often followed by death. According the Australian Institute of Marine Science (2001), it was first thought to have been the Portuguese man-of-war but as sightings usually accompanied these stings, it became obvious that it was something else.

The box jellyfish possess batteries of stinging cells, or nematocysts, that are a double-walled structure containing a spirally folded hollow thread with a tiny barb

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<sup>5</sup> Massive thanks to principal researcher Sharon Walters.

at the end. Projecting from the outside of the nematocyst is a minute sensor which acts like a contact point. When this is stimulated by physical or chemical sensation, the cell explodes. The tiny thread is ejected with great speed and force of up to two metres a second and the barb penetrates the prey or predator's skin, injecting a poison. One cell may have little effect but usually hundreds or thousands are activated simultaneously (Queensland Department of Environment and Heritage, 1995:2).

The box jellyfish is restricted to the warm waters of the indo-Pacific region and can be found in the waters off northern Australia from November to April as well as other territories north of Australia including Papua New Guinea, Indonesia, the Philippines and Malaysia (Edmonds, 1989:82).

The box jellyfish prey on small crustaceans and small fish and appear to travel towards the shore in calm weather on a rising tide and congregate near the mouths of creeks and rivers following rain. It is thought that food is washed down these watercourses to the waiting box jellyfish after rain (Australian Institute of Marine Science:2001).

At the end of summer, the mature box jellyfish reproduce sexually by shedding eggs and sperm into the water. These combine to form a larval stage called planula. The planula then swim into estuarine waters and attach themselves to the underside of scoured out rocks, and once settled, develop into a polyp. The polyp stage lasts all winter, during which the polyp may bud asexually to form new polyps. During spring polyps detach and develop into a free-swimming medusoid stage, to begin their adult life (Great Barrier Reef Marine Park Manual (2000:30).

Although highly venomous, sea turtles such as the green leatherback and hawksbill have been observed eating box jellyfish. Scientists believe it could be due to the turtle's skin being too tough for the stinging cells to pierce and that the lining of their digestive system offers some protection (Marine Parks, 1995).

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