

SHIN KUBOTA

## BOOK REVIEW

### REJUVENATION

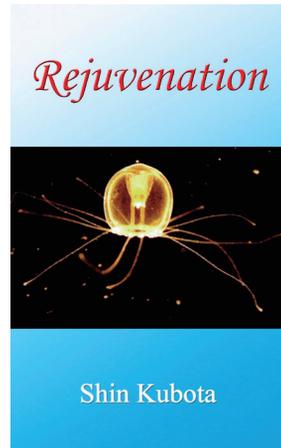
[http://www.amazon.com/Rejuvenation-Shin-Kubota-ebook/dp/B001-6HXFP6/ref=sr\\_1\\_1?s=digital-text&ie=UTF8&qid=1394332531&sr=1-1](http://www.amazon.com/Rejuvenation-Shin-Kubota-ebook/dp/B001-6HXFP6/ref=sr_1_1?s=digital-text&ie=UTF8&qid=1394332531&sr=1-1)

This short novel is written by one of the leading figures of scarlet medusa research, Associate Professor Shin Kubota at Kyoto University, describing hope and suffering of a man who finds the secret of rejuvenation. Although this story is just a science fiction at present, human beings may have to face the problem of eternal life in the near future. Background information includes his laboratory and beautiful Shirahama town in Japan.

There is also scientific background. In 1991, a group of European scientists found a potentially immortal animal: Scarlet medusa is the only known multicellular animal that can rejuvenate. This tiny, fragile jellyfish floating in the sea may have an eternal life and stirred up the biological community. Since then, many researchers have challenged to elucidate the secret of rejuvenation. Recently this immortal medusa was introduced in the New York Times Magazine and has gotten worldwide attention, accompanying with the research of Shin Kubota, Dr Sci and Shirahama town.

Here shows about Scarlet Medusa, *Turritopsis* can perform an inversion of life history, so-called a SF phenomenon that a butterfly turns into a caterpillar, from an adult jellyfish free-floating in the sea (= butterfly) to the young polyps (= caterpillar) living on the seafloor in response to stress, aging, a serious illness and fatal accident, etc. Dr. Shin Kubota demonstrated the world record of successive rejuvenation cycles (10 times for two years). The rejuvenation can be repeated, in theory, in eternity.

Scarlet medusae belong to the phylum Cnidaria, the same taxonomic group as corals and sea anemones. As the name implies, it is a carnivore loaded with numerous nematocysts (cnidae) on tentacles, which are used to hunt small animals, but they are not always poisonous enough to harm people. Scarlet medusae are distributed in warm waters around the world,

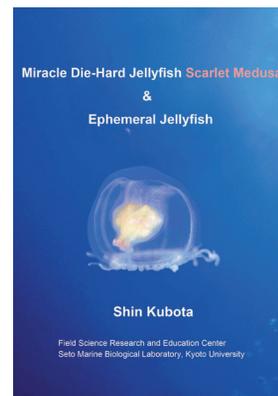


and different species inhabit in worldwide. In Japan there are three species demonstrated by a molecular study, a large one and two small ones; the former nurtures offspring and the others do not take care of the eggs.

### **MIRACLE DIE-HARD JELLYFISH SCARLET MEDUSA & EPHEMERAL JELLYFISH**

[http://www.amazon.com/Miracle-Die-Hard-Jellyfish-Scarlet-Ephemeral-ebook/dp/B00GVU6264/ref=sr\\_1\\_2?s=digital-text&ie=UTF8&qid=1394332531&sr=1-2](http://www.amazon.com/Miracle-Die-Hard-Jellyfish-Scarlet-Ephemeral-ebook/dp/B00GVU6264/ref=sr_1_2?s=digital-text&ie=UTF8&qid=1394332531&sr=1-2)

One hundred years of research on the immortal jellyfish *Turritopsis* spp. from Japanese water, which can revert in miraculous fashion from the dying medusa to the young, vivid polyp stage, is reviewed. Almost all of the publications (from 1976-2005) on the biology of *Turritopsis* written by the author and coauthors are reprinted here, including works that first appeared in books, newspapers, academic journals, and as handouts at public lectures held by various organizations. They are magnified or reduced from the original size, and sometimes modified from the original printing style. All the sources of the reprinted material are listed, together with major academic references cited in this book. An abbreviated curriculum vitae, profile, and contact information for the author are provided, together with a list of relevant internet homepage sites. In addition, articles on bivalve-inhabiting hydrozoans (particularly ephemeral jellyfish *Eugmannanthea* contrast to the immortal jellyfish *Turritopsis* and Yawara-medusa, *Laodicea undulata*, another jellyfish capable of resurrection are included.



### **MIRACLE ANIMALS ON EARTH: INTRODUCTION TO THE ANIMAL KINGDOM**

[http://www.amazon.com/Miracle-Animals-Earth-introduction-kingdom-ebook/dp/B00GC3NAMY/ref=sr\\_1\\_3?s=digital-text&ie=UTF8&qid=1394332531&sr=1-3](http://www.amazon.com/Miracle-Animals-Earth-introduction-kingdom-ebook/dp/B00GC3NAMY/ref=sr_1_3?s=digital-text&ie=UTF8&qid=1394332531&sr=1-3)

We are surrounded by a wealth of natural life forms. How many species of animals that are large enough to see by the naked eyes are living on the earth? Currently, 1.44million species are registered as extant animals on our planet. Such a large number of species, including human beings, are living on the earth, yet this

1.44 million species are divided into only 41 groups, i.e. 41 phyla in this book all of 44 taxa are explained.

This book is designed to study all animal phyla one by one with concise descriptions of key characters with visual aid that describe not only morphology and behavior, but also entire life process from egg to juvenile to adult to senescence and final death, habitat and diet, geographical distribution, related groups and the number of the related groups, fossil records, and relationship with human etc. Nowadays people are pressed for time, but please read, watch and listen to this book during commute,

break time, lecture or study meeting. When you see actual animals in person, you can use the original listing system (see Appendix 1: key) to find the taxonomy of the animals of your interest. Let's practice the taxonomy.

Here, there is one thing for you to keep in mind: Most species of the animal phyla (95%) are living in the sea (see Appendix 2). Approximately half the phyla can only be seen in the ocean. As just mentioned, the ocean is filled with wide variety of animals. There are animals too small to see with the naked eyes. But why not pay attentions to such tiny animals you never seen or touched before. No doubt, the miracle world will spread bigger and bigger in front of you. Of course, tiny miracle animals can be found in the other animal phyla. For instance, a few millimeters long tiny jellyfish called a scarlet medusa (*Turritopsis*) is the only immortal animal known to man. Existence of this animal gives human race a hope and expectation of achieving the dream of eternal life. Open this book and you will be filled with joy, amazement, romance, and affection with miracle animals as fascinating as *Turritopsis* that gives the sense of being alive.

Let's think about how magical miracle animals and we are connected and what kind of future is waiting for us. Mysterious secrets are hidden all over the place. Look at the present and future, and at the same time, travel to the past. How, what, when, and where each miracle animal has come in existence in this world? How did their ancestral animals look like? Are there "Adam" and "Eve" of the miracle animals?

Well then, let the 41 animal phyla to come in the show. Please look at the table of contents. You may familiarize any of the phyla in any order, but the phylum appears from the lower to higher taxonomic order (see attached figures).

