



Medical Miracles from the Sea



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Rediscovering Mother Nature's Deep Sea Health Treasures

Oceans are the largest of all ecosystems on our earth. In fact, nearly 71 percent of the earth's surface is covered by ocean water, and it is absolutely teeming with life forms as old and hearty as any known to science.

But in recent history, this treasure trove of life-supporting plants, animals, and nutrients has largely been ignored in favor of land-based alternatives. The modern day diet is heavily skewed toward meats, grains, fruits, and vegetables harvested from land. And, unfortunately, aggressive, technologically "advanced" farming methods have drastically depleted essential soil nutrients, making the bulk of the foods we eat nutritionally deficient.

The healthiest cultures in existence today are those that have not turned their backs on the bounty of the sea. Japan, for example, has not strayed from seafood as a diet mainstay and is consistently ranked #1 among industrialized nations for life expectancy.¹

This has renewed research interest in marine ecosystems and, recently, scientists have unmasked medical miracles hidden within the ocean depths for millions of years.

Keep reading to discover the greatest of these life-enhancing nutrients, as well as details on some better known, but often overlooked, secrets from the sea.

Extraordinary *Ecklonia cava*

One of the most remarkable recently-revealed medical miracles from the sea is *Ecklonia cava*. This rare red-brown alga is harvested from the deep waters near Japan and South Korea. And an extract from this ancient seaweed has been the subject of extensive research by Korean scientists, who have compiled numerous studies supporting its status as a true nutrient superstar. Here's why . . .

An antioxidant blockbuster

As you likely know, the oxidation of healthy cells and the free-radical damage that results compromises the integrity of your body at a cellular level. This damage, which comes from exposure to natural and man-made toxins, as well as from your body's own processes, is the underlying cause of age-related decline. It can also contribute to heart disease, high blood pressure, cancer, and other life-threatening conditions.

Certain nutrients—called antioxidants—have the ability to protect against cellular oxidation. Some of the most well-known of these antioxidants are vitamin E; carotenoids—like those found in carrots, sweet potatoes, and other yellow-orange vegetables; resveratrol—commonly found in red grape skins, and green tea catechins.

But none of these supposed antioxidant powerhouses can hold a candle to the free-radical-

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fighting power of *Ecklonia cava*. That's because the molecular structure of *Ecklonia cava* is much larger and more complex than other antioxidants, making it better able to trap and neutralize harmful free radicals.

To understand just how potent this “miracle from the sea” is, you need to compare its ORAC score to other popular antioxidant nutrients. ORAC stands for “Oxygen Radical Absorbent Capacity” and an ORAC score puts a number to the antioxidant ability of a particular nutrient.

Nutrient	ORAC score (units/gram)
Vitamin E	35
Resveratrol	791
Green Tea Catechins	1,048
<i>Ecklonia cava</i>	8,368

This simple ORAC comparison clearly shows that *Ecklonia cava* is a superior antioxidant. But, it works harder in ways an ORAC score alone can't explain. Another property of *Ecklonia cava* that makes it unique and extraordinarily valuable is that—unlike most land-based antioxidants—it is *fat-soluble*, meaning it can penetrate cell membranes to protect the critical energy-producing mitochondria and the vital nucleic DNA of your cells.

It can also cross your blood-brain barrier to deliver nutrients and antioxidant protection to your brain, helping to keep your mind clear and razor-sharp. Finally, like fat-soluble vitamins such as vitamins A and D, *Ecklonia cava* breaks down more slowly and therefore stays active in your body longer than water-soluble antioxidants. For instance, your body will break down a water-soluble antioxidant in about a half an hour, but *Ecklonia cava* will work its antioxidant magic for up to 12 hours!

A cardiovascular health breakthrough

The antioxidant power of *Ecklonia cava* is enough to classify it as a “medical miracle from the sea.” But, this extraordinary seaweed extract also offers stunning cardiovascular support. Clinical studies confirm that *Ecklonia cava* helps support healthy cholesterol in four important ways:

1. Lowers “bad” LDL cholesterol ;
2. Raises “good” HDL cholesterol levels, which helps usher LDL cholesterol to your liver where it can be eliminated from your body;
3. Lowers triglycerides, the form of fat most commonly found in your body, especially in blood plasma;
4. Reduces cholesterol oxidation in your arteries.

With *Ecklonia cava*, all of these healthy lipid results can be achieved effectively and without side effects, an accomplishment no other drug or natural supplement can claim.

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In addition to impressive cholesterol control, *Ecklonia cava* also naturally promotes healthy blood pressure. It does this by blocking an enzyme in your body that makes blood vessels constrict. And *Ecklonia cava* can improve the viscosity of your blood by balancing your natural levels of plasmin and fibrin. Also, *Ecklonia cava*'s antioxidant abilities help to keep your arteries healthy, strong and flexible. Together, these actions work to help ensure healthy blood flow and normal blood pressure.

A whole-body booster

If *Ecklonia cava*'s astounding antioxidant abilities and cardiovascular health benefits aren't enough to convince you of its "superstar" status, consider its anti-inflammatory benefits as well. This particular seaweed extract has been shown to reduce seven separate inflammatory enzymes, including the pain enzymes COX-2 and 5-LOX. By working on numerous inflammatory and pain pathways, *Ecklonia cava* can effectively address joint and muscle pain throughout your body, naturally and safely.

Therefore, this remarkable treasure from the sea can help you feel more nimble and youthful, and it can also make you *look* younger, too. *Ecklonia cava* provides total-body antioxidant protection, plus circulatory-enhancing abilities, which translates into improved nutrient delivery to all of your body's cells, organs, and systems. As a result, you'll feel energized and have a healthy, lasting glow from the inside-out.

The "branded" name for *Ecklonia cava* is **Seanol**, and most of the clinical studies confirming its health benefits used 600 mg per day. You can find Seanol supplements with this dosage in a number of formulations. But only one—**Marine-D3** from Nugenics International, 877-229-2642—features "Seanol-P," a highly purified form of Seanol that is 7.7 times more potent than other forms of Seanol on the market.

Incredible Calamarine Omega-3 Fatty Acids

The myriad cardiovascular health benefits of omega-3 fatty acids are quite well known. These "good fats" have been shown to reduce the risk of heart disease; improve blood pressure; balance cholesterol levels; lower triglycerides; reduce arterial inflammation; promote strong, flexible blood vessels; and support healthy circulation, blood flow, and blood viscosity, to name a few.

Remember the health and longevity of the Japanese people mentioned earlier? Another related health statistic is that the Japanese consume far more omega-3 fatty acids in their diets and maintain higher levels of these healthy fats in their blood than do Americans.

The average Japanese person has 600 mg of docosahexaenoic acid (DHA)—a particularly beneficial type of omega-3 fatty acid—in his or her body, while Americans have an average of only 120 mg. And it's no coincidence that the Japanese suffer far less from cardiac disease than Americans. Specifically, there are 106.5 heart disease-related deaths per 100,000 people in the United States, yet only 30 per 100,000 people in Japan.ⁱⁱ

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The challenge of getting sufficient omega-3s

Getting sufficient omega-3s can be challenging because there aren't many dietary sources. Flaxseed, pumpkin seed oils, hemp, and dark leafy green vegetables are all known sources, but you'd have to consume an unlikely amount of these to get the heart-supporting benefits you're looking for.

Plus, these foods only contribute the omega-3 building block, alpha-linolenic acid, which your body must then convert into EPA and DHA omega-3s. This takes energy and critical enzymes, which often decrease with age.

That's why for years fish oil has been the "go to" source for omega-3s. Unlike the land-based sources, fish convert alpha-linolenic acid into eicosapentaenoic acid (EPA) and DHA, so you don't have to. In other words, the heart-healthy benefits of fish oil are readily available.

Yet, there have been concerns over the years about fish oil purity and possible contamination with mercury and other heavy metal toxins. There have also been issues with over fishing and the destruction of ocean ecosystems in order to meet the high demand for fish oil.

A dramatic new source of omega-3s from the sea

Recently, however, scientists have discovered an all-new source of omega-3s: calamari or squid. It's branded under the name "Calamarine," and has been found to be far superior to even the highest grade fish oil in several ways.

First, and most important, is the fact that Calamarine has far more DHA than fish oil does. Most fish oils have equal levels of EPA and DHA, or sometimes more EPA than DHA. But, it's the DHA that's been found to have the most heart health benefits. And Calamarine gives you abundantly more of this superior omega-3 fatty acid than ordinary fish oil does.

Second, squid are a pure and highly sustainable resource for omega-3s because they have a short life-cycle and reproduce abundantly. This keeps their body oils free from heavy metals and toxins that can be consumed by larger, longer-lived fish, like tuna, which are common sources of fish oil. It also makes Calamarine "eco-friendly," since there is no risk of over fishing. Furthermore, the fishing methods used for Calamarine squid result in virtually zero by-catch and no impact on the ocean floor or coral reefs. In fact, Pharma Marine, which produces Calamarine, recently received the "Friends of the Sea" certification, giving them international recognition as a sustainable and ecologically accountable fishery.

Finally, Calamarine has no fishy after taste or problems of "repeating," which are common complaints with standard fish oil.

Tremendous total body benefits

The total body benefits you get from daily doses of quality omega-3s make them another true "miracle from the sea." In addition to the heart health benefits already mentioned, omega-3s can help:





- Relieve joint pain and other rheumatoid problems;
- Increase bone density and improve bone strength;
- Ease certain skin ailments, including psoriasis;
- Decrease menstrual pain;
- Reduce symptoms of depression, attention deficit hyperactivity disorder (ADHD), systemic lupus erythematosus (SLE), Alzheimer dementia, and macular degeneration;
- Reduce the risk of breast, prostate, and colorectal cancers.^{iii iv}

The American Heart Association recommends you get at least 500 mg of essential fatty acids (EPA/DHA) every day. Unfortunately, the average American gets only 50-100 mg daily of EPA/DHA from food, so supplementation is a must. There are abundant omega-3 supplements available online and in health food stores, but only a select few with Calamarine, including **Marine-D3** from Nugenics International, 877-229-2642.

Fantastic-for-You Dietary Fish

Certainly, the omega-3 fatty acids in fish can be a boon to your health, but don't focus solely on this one part of fish and in the process overlook the benefits of fish as a whole. Uncontaminated fish can be one of your best sources of lean protein in a healthy, balanced diet, and is one of Mother Nature's underappreciated gems.

Take another look at our Japanese friends and you'll discover another very real benefit of a fish-focused diet. Japan is ranked at the very bottom of the list of industrialized nations for obesity. It ties with South Korea, another Asian country where fish is a dietary mainstay, with only 3.2% of their population classified as obese. The United States, on the other hand, has the ominous rank of number one on this list, with 30.6% of our population classified as obese.

According to the Centers for Disease Control and Prevention (CDC), an estimated 300,000 American deaths a year are related to obesity, and even moderate weight gain of 10-20 pounds for a person of average height increases the risk of death. Obesity also increases your risk of heart attack, congestive heart failure, sudden cardiac death, angina, high blood pressure, high cholesterol levels, stroke, type 2 diabetes, fatty liver disease, gall bladder disease, gout, chronic venous insufficiency, deep vein thrombosis, asthma, sleep apnea, arthritis, and numerous cancers, including endometrial, colon, gall bladder, prostate, kidney, and post-menopausal breast cancer.

Clearly, maintaining a healthy weight is critical to your long-term vitality, and fantastic-for-you dietary fish can be a delicious way to help you stay slim.

Follow your heart for consumption guidelines

The U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (HHS) have developed Diet and Lifestyle Recommendations where they address the consumption of meat, poultry, and fish as a combined food group. The American Heart

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Association (AHA), on the other hand, wants an increased emphasis on the consumption of fish and the promotion of fish as a major source of protein because they know this dietary change can go a long way in reducing cardiovascular disease, stroke, and other associated health risks.

Don't wait for mainstream America to catch on to the importance of fish in a healthy diet. Follow the AHA recommendation of eating fish—especially oily fish—at least twice a week. Oily fish, including salmon, sardines, sablefish, shrimp, and trout, are especially rich in omega-3 fatty acids, which you now know hold a treasure trove of health benefits.

Favor some fish over others

While you make the change of adding more fish to your diet, take care to select the proper *kind* of fish. Some large, long-lived ocean fish, like certain tuna and swordfish, can contain heavy metals like mercury. Lake fish can be contaminated with industrial pollutants, such as polychlorinated biphenyls. And certain farm-raised fish grow in overcrowded conditions, swimming in their own feces, and then are often injected with synthetic dyes to “improve their color.”

So, where can you turn for safe, healthy fish? One excellent resource to guide you is the *Seafood Selector* produced by the Environmental Defense Fund (EDF) (EDF.org/seafood or downloadable to your mobile phone at m.EDF.org/seafood). This handy guide identifies fish that are a good source of heart-healthy omega-3s and low in contaminants, plus it classifies fish in terms of how “eco-friendly” they are, depending on how the fish is caught or farmed.

Some of the EDF's top choices of fish that are both good for you and for the environment include:

- Canned salmon;
- Wild salmon from Alaska;
- Pink shrimp from Oregon;
- Spot prawns from Canada;
- Farm-raised rainbow trout;
- Albacore tuna from the U.S. or Canada; and
- Yellowfin tuna from the U.S. Atlantic caught by troll or pole.

And their list of fish to avoid includes:

- Farmed or Atlantic salmon;
- Imported longline albacore tuna;
- Bluefin tuna; and
- Imported bigeye/yellowfin tuna caught by longline.





Astonishing Green Superfoods

Spirulina and chlorella are two more astonishing medical miracles from the sea. Although relatively unknown to the general public, these health-giving sea plants have been extensively researched and clinically studied. They have also been used medicinally for thousands of years in Asian, African, and South American cultures.

Both spirulina and chlorella are aquatic plants that are spiral-shaped and have a distinctive green-blue color. They are loaded with chlorophyll, which gives them an unusually high nutritional value and antioxidant capacity.

In fact, these plants are thought to provide some of the highest sources of protein, nucleic acids, and beta-carotene of any plant or animal food known to man. They also hold abundant omega-3 fatty acids, and another essential fatty acid known as gamma linolenic acid. The fact that these foods are more nutrient- and enzyme-dense than ordinary foods that we eat gives them their “superfood” status.

Another great aspect of these particular foods is that they are easily digested and thoroughly absorbed by your body, so that a very tiny amount can give you the equivalent nutrition of a much larger serving of traditional food. For instance, 2-3 *teaspoons* of these microalgae provides the protein equivalent of 2-3 *ounces* of meat. Plus, because they are easily digested and metabolized, they don't create the toxic burden on your liver like meat protein can.

Research indicates that the nutrients in these green superfoods can boost your energy, enhance your immunity, help heal digestive issues, decrease inflammation, and improve your body's own natural detoxification systems.

Superfood concentrates preserve the whole-plant goodness

Today, spirulina and chlorella are available as green superfood concentrates, where the highly nutritious whole plants, rather than just specific extracts or components of the plants, are made available for easy consumption.

These concentrates are carefully processed to preserve enzymes and other fragile components of the plant. And in the case of chlorella, the plant's hard outer shell must be gently broken so that the nutrients on the inside can be digested.

These concentrates can be found in tablet, capsule, and powder form, and are available from a variety of manufacturers in health food stores and online. (The powder can be mixed with your favorite non-acidic juice or added to applesauce.) Remember that these foods are super concentrated, so start taking them slowly and gradually ramp up to the full manufacturer's recommended daily dosage.

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Little-Known Green-Lipped Mussel Extract

Another natural gift from the sea comes to us in the form of an extract from the New Zealand green-lipped mussel (*Perna canaliculus*). This simple bivalve mollusk brings surprising health-supporting power, especially for addressing inflammation-based pain and stiffness.

Extensive research conducted in the Department of Medicine at the University of Auckland, New Zealand, as well as follow-up clinical and laboratory research undertaken by major pharmaceutical companies around the world, show that green-lipped mussel extract is a safe and effective anti-inflammatory nutrient. The most notable benefits were for those who suffer with the debilitating effects of joint pain from arthritis.

The research revealed that the extract works in three distinct ways to bring about pain relief and enhanced mobility. First, the muscle extract contains a certain glycogen complex molecule that suppresses the inflammatory process in your body that leads to swelling and pain.

The extract also works to limit inflammation in a second way—by blocking undesirable prostaglandins. It is the long-chain fatty acid component of the mussel extract that does the job in this instance. Many nonsteroidal anti-inflammatory drugs also inhibit prostaglandins, but the problem is they block both bad prostaglandins and good ones that protect the health and function of your stomach lining. Green-lipped mussel extract, on the other hand, is selective in its work and doesn't disturb the good prostaglandins. The bottom-line benefit to you is that the extract can reduce inflammation without stomach upset.

A final health-enhancing aspect of the green-lipped mussel extract is that it contains mucopolysaccharides that have been shown to help your body lubricate and cushion joint cavities as well as rebuild joint-supporting cartilage. These specific benefits are especially important to those experiencing pain and stiffness from arthritis.

The typical dose of green-lipped mussel extract used in research studies is 200 mg per day, and you can find the standardized extract from a number of online retailers and in health food stores.

Surprising Sea Salt

It's no news that too much salt in your diet is bad for your health. An excess of sodium can lead to a number of problems—from uncomfortable, like water retention, to life-threatening, like high blood pressure and congestive heart failure.

Unfortunately, our modern diet often includes an overwhelming number of processed foods that are notoriously high in sodium. Well-known culprits include pre-packaged frozen meals, canned vegetables, and fast food of all kinds.

The good news here is that there is an alternative for those of you who love your salt and can't imagine a meal without it. This wonderful miracle is sea salt.





Unrefined and good for you (in moderation)

Ordinary table salt is refined sodium chloride. It is usually extracted from rocks in salt mines, cleaned, bleached, and treated with anti-caking agents. During these processes, all healthful minerals are removed. Sea salt, however, is formed from the natural evaporation of ocean water, hand harvested and unrefined, allowing it to retain its natural, healthful properties. Sea salt is a type of salt that is actually good for your health, when used in moderation.

The fact is, your body needs some sodium to function properly. It is an essential element in numerous chemical processes in your cells and organ systems. Sea salt gives your body the type of sodium that your body needs and can best use.

It contains natural iodine that can help protect against environmental pollutants, including radiation. And it also includes over 100 minerals from 80 chemical elements that help your body to function optimally on a cellular level. Some of these are:

- ▶ **Calcium**—needed for bone development, strength, and protection;
- ▶ **Iron**—critical for protein and enzyme development, cell growth and differentiation, and the transportation of oxygen from blood cells to body tissues;
- ▶ **Magnesium**—which works in conjunction with calcium to build bones, helps maintain normal muscle and nerve function, and also helps your body eliminate excess sodium;
- ▶ **Potassium**—necessary for conducting electricity in the body, essential for heart and smooth muscle function;
- ▶ **Silicon**—important for healthy, beautiful skin, nails and hair; and
- ▶ **Sulfur**—essential for the growth and development of connective tissue, cartilage, and bone.

Different types of sea salt

Because sea salt is unrefined, it takes on different color and taste characteristics, according to the ocean water it comes from⁹. For instance:

- ▶ **Black sea salt** is common in India and used for seasoning many Indian foods. It is actually pink or gray in color, and has a distinctive sulfur odor.
- ▶ **Celtic sea salt** comes from France and has an unusual gray-to-light purple color, which it acquires from the clay in the areas where it is harvested.
- ▶ **Italian sea salt** is gathered from the lower Mediterranean Sea and has a very high mineral content. It makes for flavorful seasoning in sauces and hearty Italian dishes.
- ▶ **Hawaiian sea salt** is harvested only in the Hawaiian Islands. It has a distinctive pink color, which comes from Alaea volcanic clay, which is rich in iron. This type of sea salt is commonly used in traditional Hawaiian dishes.

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- ▶ **Smoked sea salt** is somewhat newer to the sea salt scene, but is growing in popularity. This type of sea salt is actually smoked over a wood fire after it is harvested to add flavorful nuances to the salt crystals.

A Bounty of Beauty Support from Ocean Squalane

One last “miracle from the sea” you won’t want to miss is an absolute beauty boon for your skin called squalane. Squalane is a stabilized form of squalene, the natural antioxidant found in deep-sea shark liver oil. (Don’t worry; the sharks aren’t fished for their squalane alone. The squalane is harvested as a by-product from sharks fished for other purposes.) This oil also occurs naturally in all human tissue, with the greatest concentration in your skin. Unfortunately, squalane levels in humans peak around age 20, and decline very rapidly after that.

Squalane contains sebum, which is a natural substance in your skin that actually helps your skin cells regenerate. It also works to keep your skin soft, smooth, moist, and young-looking. Plus, this natural moisturizer is a powerful antioxidant, protecting your skin against damaging environmental free radicals and the wrinkling, pigment spots, and other signs of aging they can cause.

Penetrates deeply and nourishes completely

One of the defining characteristics of squalane is that its hydrating nutrients penetrate quickly and deeply into your skin rather than sitting on top of your skin like many synthetic moisturizers tend to do.

It goes to work with your own natural sebum to hydrate and sooth dry, irritated skin; smooth and soften the texture of your skin; and even to reduce fine lines and wrinkles, making your skin look younger and more radiant. Squalane has also been proven effective against eczema, dermatitis, rashes, and dry, cracked skin from cold weather.

The most-often recommended product containing topical squalane is BioMarine by Oceana. It’s available from a variety of online retailers and comes in a refreshing lavender scent.



Deep within the sea, there exists a pirate’s bounty of health-giving miracles. Don’t overlook these enriching treasures! Instead, put each to good use so you’ll look and feel younger, stronger, happier and more vibrant.





FootNotes

ⁱ www.nationmaster.com, 2010.

ⁱⁱ *Ibid.*

ⁱⁱⁱ University of Maryland Medical Center, www.umm.edu/altmed/articles/omega-3-00031.htm

^{iv} www.pharmamarine.com

^v Davis, Veronica. Types of Sea Salt. www.eHow.com







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