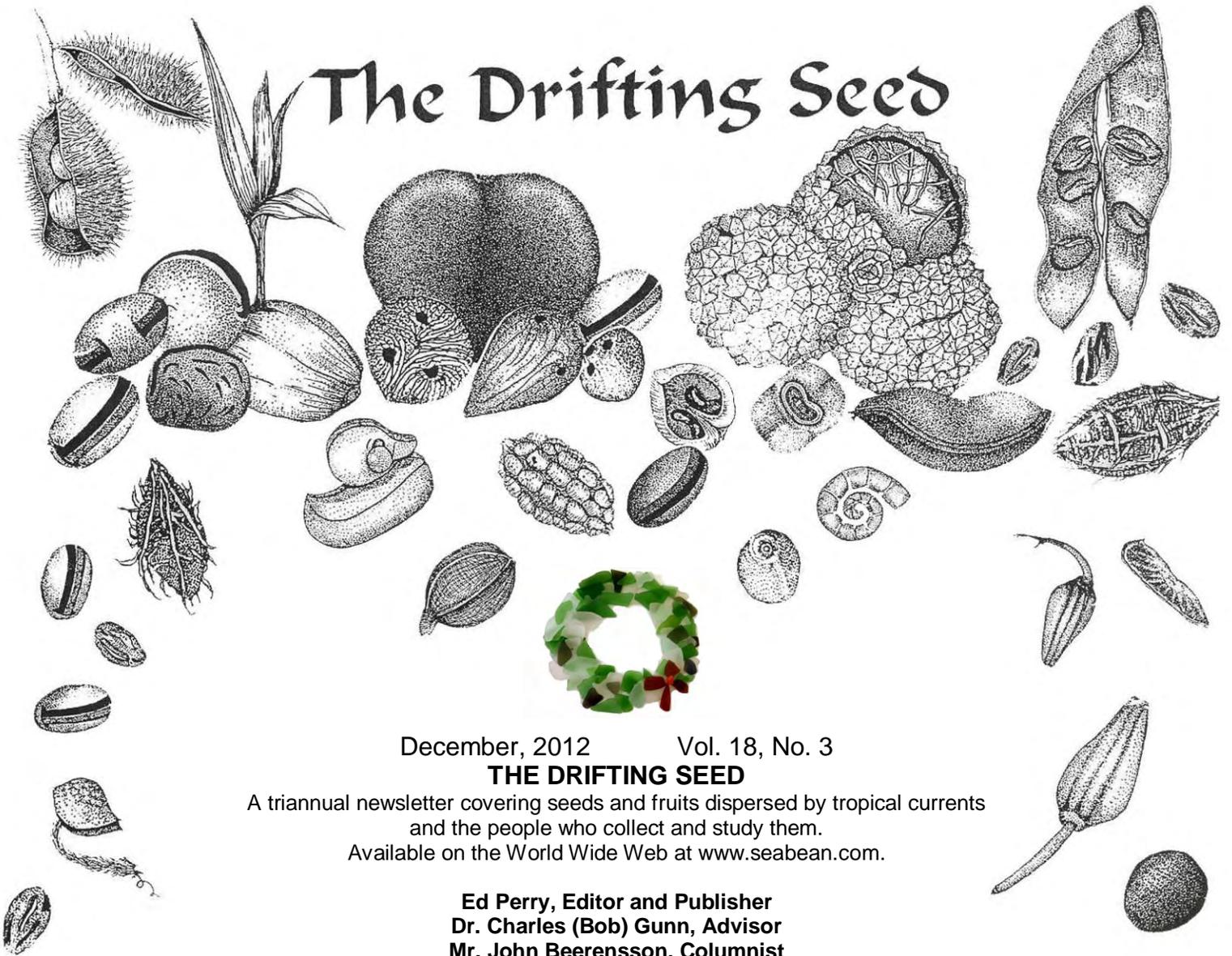


The Drifting Seed



December, 2012 Vol. 18, No. 3

THE DRIFTING SEED

A triannual newsletter covering seeds and fruits dispersed by tropical currents and the people who collect and study them.

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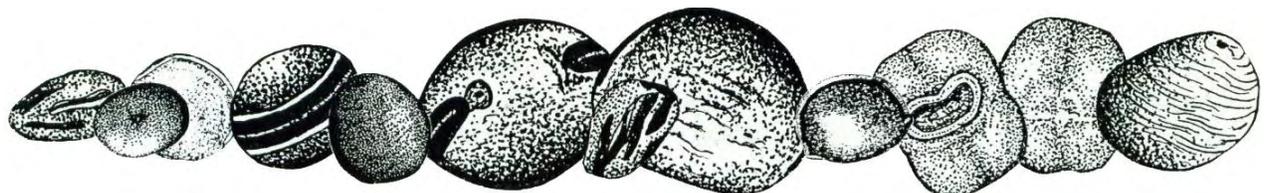
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The 18th Annual International Sea Bean Symposium will be held at the Cocoa Beach Public Library, October 18th and 19th, 2013.

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17th Annual International Sea-Bean Symposium Review

Oct 12th & 13th, 2012, Cocoa Beach, Florida

by Margie Mitchell, margiemitchell@cfl.rr.com

We went back in time this year. Our keynote speaker, Dr. Deacon Ritterbush (aka "Dr. Beachcomb"), took us to the Big Island of Hawaii for a case study of beachcombing as a portal to history. We learned how early settlers came from different parts of the world to different areas of the island, and **carried on different activities where they settled. As a result, today's beachcomber may find items of Asian origin in some places, European items in others.** In areas where sugar plantations flourished, beaches now yield beautiful sea glass from the slag glass produced long ago in their furnaces. Now **that we know how knowledge of the past can sharpen the beachcomber's eye for treasures, we're all planning to enroll in some history courses.**

As always, we were treated to some other great speakers:



Dr. Blair Witherington gave a presentation on the Gulf of Mexico, highlighting its upstream influence on what drifts to eastern Florida in the ocean currents. Of particular interest to Eastern Floridians was his explanation of how and why the oil from the Deepwater Horizon disaster remained contained within the Gulf and did not foul Atlantic waters. Hearing about his sea turtle research and rescue work in the Gulf during that time period made us even more grateful that Mother Nature saw fit to keep the oil away from us.

Dr. Curt Ebbesmeyer provided his annual trash tracking update. The main topic of interest this year continues **to be debris crossing the Pacific from the 2011 Japanese tsunami ("flotsam on steroids," in Curt's parlance).** Although there have already been minor arrivals on the U.S. West Coast of fast-floating items, the main body of debris is still en route. Curt predicts it should begin to arrive very soon. Unfortunately, there is no major clean-up plan yet in place for the massive amounts of trash, which will include much Styrofoam and other environmentally harmful materials.

David McRee presented his newly-revised **Beach Survival Guide**, subtitled, "How to Be Safe From Sharks, Jellyfish, Stingrays, Rip Currents and other Scary Things on Florida Beaches and Coastal Waters." **For all the details, you can download the free e-book at David's web site:** <http://www.beachhunter.net/beachsafety.htm>

Dr. Ritterbush reprised her popular "Everything You've Always Wanted to Know About Sea Glass," giving us the basics on sources, genres, colors, and best hunting locations.

Basic Beachcombing got a new twist this year, as I took it over from Ed Perry, shamelessly copying his old presentation and adding a few of my own



editorial comments. Targeted to beachcombing newcomers, it covers all the basic what's, where's, when's, how's and why's of hunting for and amassing sea-beans and other beach treasures. (**editor's note:** And what an excellent job Margie did delivering this topic and making it her own. It was such a pleasure to sit back and get to watch for a change! Bravo Margie!)

Exhibits this year included:

- Cathie Katz's sandbox and books, this year including a beautiful new tote bag, designed by Lisa Hutchinson, with some of Cathie's previously unpublished art. If you didn't get one, I promise it's a must-have. Get one next year.

- A sharing table, an idea borrowed from Dr. Beachcomb's beachcombing conference in Delaware. It turned out to be a very popular attraction, overflowing with sea-beans, shells, jewelry, driftwood, and all manner of beach finds. We will do that again.

- Deacon Ritterbush's eclectic table of books, sea glass, fishing floats, and archaeological items.

- The Coastal Clean-up Corporation's marine debris exhibit, this year including very cool doormats made from trap line collected during shoreline cleanups.

- Jim Angy's nature photography.

- Curt Ebbesmeyer's usual trash assortment.

- Alice Lowe's sea-bean polishing display, overseen in her absence by guest hostess Mary Bowman.

- Nan Rhodes' Sea-Beans From Exotic Lands jewelry display.

- Ann Zscheile from the Sea Turtle Preservation Society with her new book, "Wilbur the Washback Sea Turtle." She also provided helpful information for beachcombers who find little sea turtles in the wrack, washed back from their off-shore homes in the sargassum.

- Keep Brevard Beautiful's Adopt-a-Shore program information.

- Alan Rammer's table of French artist Severine Cadier's seabeam sculptures.

- Blair and Dawn Witherington's books and interesting beach finds.

- Bill Blazek's ever-growing amazing collection of hand-polished sea-beans.



This year's Bean-a-thon had the first Grand Slam winner (Sheri Ryser) in quite a few years. Other winners:

Most Species: Sheri Ryser (23)

Non-bean: Kim Mohlenhoff (cowboy and Indian traveling together)

Odd bean Contest winners were:

Reddest hamburger: Donna Moore
Flattest sea purse: Kim Mohlenhoff
Bluntest starnut: Bill Blazek

The raffle table was cram-packed with amazingly creative prizes donated by symposium attendees. Many thanks to everyone who contributed.

Special thanks to Dawn Witherington for her clever "Wrack Life" t-shirt design. It's one of my all-time favorites.

Extra special thanks to Nancy Yates, Gayle Perry, Mary Bowman, Sam Burnett, and Eileen Ayers for their substantial help. And a million thanks to everyone who stepped up, pitched in, and shouldered the load. We couldn't do it without you.



We're already planning for next year's symposium. Mark your calendars for Friday and Saturday, October 18th and 19th, 2013, at the Cocoa Beach Library. Can't wait to see you there!



Perplexing Peregrinations: On the Trail of Drifting Coconuts

by Curtis C. Ebbesmeyer, CurtisEbbesmeyer@comcast.net

"The coconut palm (kalpavriksha)

. . . gives all that is necessary for living."

— Sanskrit proverb

Coconut Fates:

Eaten by coconut crabs (*Birgus latro*),
Washed ashore and sprouted,
White House Oval Office (desk of President John F. Kennedy),
Message from Japanese soldier (drifted 35 years),
Flotation experiment (41 years; 1971-2012),
Sank to the sea floor and into sea floor sediments,
Set adrift to celebrate the anniversary of a Japanese ferry boat,
Washed up and inspired famous Japanese poem,
Launched by newlyweds,
In Japanese archeological digs (dating back 5,500 years),
Hindu and Sikh religious festivals,
Grand Tour (25-year drift around the world ocean),
Sent via priority mail (to author),
Sold individually in supermarkets,
Drift aboard the currents,
Transported by ancient mariners,
Cooking with coconut meat (candy bars, cookies, cakes . . .),
Capture monkeys in India, Africa, and Southeast Asia, and
Production of copra (dried meat of the coconut).

Apples by Land, Coconuts by Sea

I did not grow up in the Tropics. My ancestors date back centuries from northern European farming stock. After World War II, my father planted a small orchard in our backyard in the hot and dusty San Fernando Valley, Southern California. With water, everything seemed to grow there: peaches, almonds, plums, apricots, pomegranates, boysenberries, figs, pineapples, and apples.

In grammar school, my classes sang Johnny Appleseed Grace. He became one of my boyhood heroes. While traveling large parts of the American frontier, John Chapman (a.k.a., Johnny Appleseed, 1774-1845) planted apple seeds, from which trees took root and pioneers prospered. **Without apple trees, the Earth's** temperate latitudes would be far different.

Later, I took up beachcombing, trying to understand the sea through the flotsam that stranded on the shore. With the passage of time, my files bulged with accounts of tropical drifters. Slowly, it dawned on me, amazing as the story of the apple seed is, the bountiful seed of another tree reached all around another huge band of the earth, to touch lives and shape tropical cultures, spread not only by human hand but by the whims of ocean currents. This grand world-traveler is the coconut.

In the grocery store, they are as different as apples and oranges, but beyond, on land and at sea, apples and coconuts bear many similarities. Commercial world production of both is about the same: 97 billion pounds for apples (2006-2007), versus 118 billion pounds for coconuts (2002). The coconut has become the most famous drift fruit and enduring symbol of the Tropics.

Tropical seeds have long been thought to be lucky charms, and many have medicinal value. My father loved the ox-eye sea bean (*Mucuna sloanei*; a.k.a. hamburger bean) because it contained high concentrations of the L-Dopamine drug he took to treat his Parkinson's disease. In Sanskrit, the coconut palm is known as *kalpa vriksha*, meaning: "tree which gives all that is necessary for living." It is an apt observation. I've observed nearly all the parts of the tree provide some benefit to those who live nearby. The coconut provides food, the leaves make fine roofs, and the trunks are suitable for construction.

To my beachcomber ways of thinking, Johnny Appleseed becomes the currents and apple seeds become coconuts. He, like the currents, went from farm to farm as the currents dropped coconuts beach to beach. He spread Christianity just as preachers dispatched tracts in bottles on the sea. He helped pioneers just as currents provided a plenitude of necessities for ancient mariners and settlers. Johnny wandered all his life; currents will wander as long as there is an ocean. Truly, the coconut is the apple of the tropics.

Many a time I have seen apples floating ashore from a cargo of fruit lost somewhere out at sea. Fresh apples float for days on sea water because air comprises a fourth of their volume. Coconuts can float for months and remain viable. They become seafaring apples — Johnny Appleseed dispersed the apple like the currents and ancient explorers spread the coconut.

Wandering Coconuts

Imagine Johnny Appleseed with handfuls of apple seeds stashed in his knapsack. Where did he plant them? How did they shape the lives of the pioneers who settled by the apple trees? Imagine the currents with a similar number of coconuts. How did the currents handle these hardy drifters? Let us follow the fates of approximately twenty coconuts. In the firmament of coconuts, what do these score represent?

We cannot imagine the travels and adventures of the trillions of unreported coconuts, though we know that each had individual genetic signatures (DNA codes). From a forensic point of view, the fates of these drifters are the ultimate cold cases. Coconut palms lead long, productive lives. They begin bearing nuts at the age of five to seven years, and continue doing so until they are seventy to eighty years old. In its lifetime, a single coconut tree may produce 1,200–3,500 seeds. Here's my speculation. The total number of coconut trees on earth may number in the hundreds of millions. I estimated 200 billion coconuts produced in three human generations by multiplying 100 million trees by 2,000 coconuts in the life of each tree.

I hoped to contrast fruits found in a supermarket with coconuts roaming the ocean. So, I purchased a coconut at my local supermarket, the Quality Food Center (Q.F.C.) in the University Village, Seattle, Washington State. Amongst other tropical fruit, beside pears and oranges, it had been de-husked and shrink-wrapped in orange plastic netting. The placard on the stick amongst the coconuts advertised "White Coconuts, \$2.99 each, King of Tropical Fruit." The plastic tag affixed to the plastic netting announced that my "One Groovy Coconut" was the "product of Dominican Republic" under



Coconuts Have Eyes. An old Hawaiian belief maintains that coconuts have eyes so they can see where they're falling. Does the belief extend to seeing where they are going on the currents?

the brand name of "Brooks Tropicals" product #4262, and recipe hints for preparing the coconut. Elsewhere in the store, I found coconut meat in candy bars, cakes, ice cream, pies, and cookies.

Then I remembered the coconut I had received via priority mail from Captain Charles Moore a few days before my birthday in the year 2000. Charlie had mailed it from Holualoa, on the Big Island of Hawaii, as he was setting out on his epic studies of the Great Garbage Patch. It was a coco-gram, still with the husk measuring 6 x 12 inches, but coated in plastic and painted with a colorful tropical scene, "*Aloha from Kona*," and a map of eight major Hawaiian Islands stretching from the Big Island northward to Niihau. It had been too large for the postman to stuff in my postal box. To this day, it resides on my shelves amongst other types of flotsam.

I pitied these poor coconuts, trapped as they were within the confines of human contrivance, far from the adventurous lives of their seafaring cousins. They'd been unnecessarily encased in plastic, symbolic of the age of oil. The one with the husk had been encased in plastic, the de-husked one in plastic netting. Nevertheless, they did have their travels, one via jet plane from Hawaii, the other via boat, truck or plane from the Dominican Republic.

Coconut Cachet

According to **Wayne Armstrong**, the noted botanist: "*Of all the 250,000 species of seed plants on earth, only about 250 species are commonly collected as drift disseminules on tropical beaches, and only about half of these are known to produce seeds that can float in seawater for more than a month, and still be viable. This relatively small number of drift seed species does not include seed plants dispersed on vegetation rafts and drifting garbage from ships. Although the total number of drift seed species with long viability periods may be relatively small, nonetheless they form a floral flotilla comprising countless billions of individuals riding the ocean currents of the world.*"

The best known of all seafaring seed drifters is the coconut. The cachet of this drifty fame extends to seeds of three trees in the palm family (*Arecaceae*). There exist, from smallest to largest: the sea coconut the size of a golf ball (a.k.a. golf ball bean; *Manicaria saccifera*); King Coconut (*Cocos nucifera*) the size of a human head; and the Coco-de-Mer, or double coconut (*Lodoicea maldivica*), which is, in fact, double the size of King Coconut.

Sea coconuts wash ashore in great numbers along beaches of the Caribbean and the southeastern United States. They drop from trees that are native to the Amazon River, and may be carried by the Gulf Stream and North Atlantic Current to beaches as far as those of Northern Europe. The sea coconut tree, or troolie palm, is unusual with leaves nearly eight meters (26 feet) long.

The Coco-de-Mer palm tree produces the largest seed in the world and grows on only two of the 115 Seychelles Islands in the Indian Ocean. Its fruit, the largest recorded weighing up to 20 kilograms (42 pounds) and measuring up to half a meter (1.6 feet) across, contains the double coconut, so called because it has two lobes, each resembling a coconut.

Sailors who first saw the double coconut floating in the sea imagined that it resembled a woman's disembodied buttocks. This fanciful association is reflected in one of the tree's archaic botanical names, *Lodoicea callipyge*, taken from Greek meaning "beautiful rump." The viable nut is too heavy to float, and only rotted nuts can be found on the sea surface, thus explaining why the trees are limited in geographical range to just two of the Seychelles Islands.

Wherever coconuts meet various cultures, they take on different values and significance. The origin of the generic name "Coco" for coconut may be traced to the three germination pores on the endocarp layer surrounding the seed. Iberian explorers found a resemblance to a monkey's face in

the three round indented markings or “eyes” located at the base of the coconut. After the year 1500, Hispanic traders introduced the coconut into West Africa. Perhaps, too, they introduced a method for catching monkeys with coconuts, a story my father told to me when I was a boy.

The story goes that long ago, in Africa, India, and South East Asia, the natives employed a unique and interesting way to control pests. People relied heavily on their harvests, and monkeys were troublesome. To capture a monkey, a farmer would hollow out one end of a young, fresh coconut (an old, brown one would not attract monkeys), and emptied out the juice. He cut a hole just big enough to accept a monkey's hand (about one and a half to two inches in diameter). The larger the selected coconut, the better, so the monkey would have trouble lifting it. Then the native inserted a few peanuts. The monkey put his hand in the coconut and, when he made a fist around the peanuts, he trapped himself.

Because the monkey would not let go of the peanuts, its clenched fist could not be pulled through the hole, thereby preventing its escape. The natives pulled a string attached to the other end of the coconut and captured the monkey, with fist still clenched about the prize. This story comes down to us in part because of the enduring moral underlying the story, namely, that to survive it is sometimes necessary to let go of a treasured possession or situation.

No doubt the capturing of monkeys with coconuts predates the year 1555, when the word “coconut,” first appeared in English print, taken from the Spanish and Portuguese word “Coco,” meaning “monkey face.” The Japanese culture retained the ancient mariner humor, for coconuts there are known today as “Kokoyashi no mi.” Perhaps the humor came from the antics of capturing monkeys with coconuts.

The light, fibrous husk allowed King Coconut to drift on the ocean and propagate on other shores. We focus on the coconut king from here onward.

Travels with Coconuts

From my forty-plus years of beachcombing, what follows is a factual composite of the travels of a group of twenty-some coconuts. Perhaps the winds in a Pacific storm shook them from an unknown tree onto the beach below. I take, as a starting point, the Nesiias (Micronesia, Melanesia, Indonesia), for this is thought to be their ancestral home. On this sandy shore, a giant coconut crab (*Birgus latro*) cracked one open; the tides carried the brethren to sea, probably with *Birgus* larvae within their husks. *Birgus* is the largest land-living arthropod in the world. It is known for its ability to crack coconuts with its strong pincers, and eat the copra.

This unique association of crab and coconut is an important one because the scientific community is divided as to how the coconut has spread around the world (e.g., prolific in South America, India, the Pacific Islands, Hawaii, and Florida). Whether viable coconuts floated to islands of the tropical Pacific has been much debated for more than a century. Some authorities have gone so far as to say that there is no shore where its presence is not due, directly or indirectly, to its having been planted by man. Other authorities cite localities where coconuts appear to have seeded themselves naturally, including cays in British Honduras (Belize), rocky islets in the Fiji Islands, the east coast of Trinidad, Cocos-Keeling Atoll in the Indian Ocean, and Krakatau and adjacent islets. Following the catastrophic eruption of Krakatau of 1883, coconut palms sprouted on Tetiaroa Atoll in French Polynesia.

But of all the arguments for a transoceanic dispersal of coconuts, perhaps the most interesting and persuasive comes from the widespread distribution of the coconut crab (*birgus latro*). With their strong claws, these giant crabs cut holes into coconuts and eat the contents, a behaviour unique in the animal kingdom. Careful study indicates that this large land crab could not have achieved its

present widespread inter-island distribution with only a 30-day aquatic larval stage, unless they rafted to distant islands. It appears that the tiny post-larval (*glaucothoe*) stage may have been spent in the moist husk of floating coconuts. Ancestors of modern coconut crabs probably migrated concealed within floating coconuts.

A mature coconut eventually drops from the tree, unless it is picked. The embryo eventually sprouts out of the shell and becomes a young coconut seedling. At this point, the plant can survive for several more weeks or months on the food and water inside as roots gradually develop and extend out of the shell to anchor the plant in the ground.

As complete seed packages, coconuts have been known to travel to faraway lands to find new homesteads. Stories abound of coconuts floating their way across seas and oceans to be washed ashore on distant islands, rooting themselves in groves to greet visiting humans in search of paradise. Once the husk is removed, the seed dies. The de-husked coconuts at the supermarket are no longer productive seed packages.

My wife and I are avid watchers of Forensic Files, which is often broadcast on cable TV channels. There was one episode, for example, in which unburned logs were found in a fire extinguished at a murder crime scene. Crime scene investigators needed to know if the logs in the fire pit came from the trees near the home of a suspect. Turned out, each tree has a DNA pattern as unique as each human does. Thus, I suspect that each coconut has a DNA pattern that could be traced to its parent tree. Someday, when DNA databases have further evolved, botanists will be able to trace coconuts, like we trace people, by their genetic code. The group of coconuts we are following here, having fallen from the same mother tree, probably carry similar DNA.

By the thirtieth day after our group of coconuts first fell from their mother tree, one coconut had drifted ashore with a load of *Birgus glaucothoe* where the crab eventually became established. By the hundredth day — the time a coconut may float and still germinate — the relentless flow of the ocean had transported the group hundreds of miles. Currents circling an island brought another one to shore where it sprouted. The others in the group drifted ever onward.

In time, religion, poetry, celebrations, and romance claimed the remaining coconut brethren.

Spell Over India

Coconuts enchanted India and other regions near the Indian Ocean. On the Nicobar Islands, at the southern tip of India, for example, until the early part of the twentieth century, the Nicobarese people used whole coconuts as currency. Elsewhere, Sikhs inserted coins into coconuts to honor the 400th anniversary of the founding of their religion. In yet a third example, during *Raksha Bandhan* festivals, Hindus offered coconuts to the sea god *Varuna*, believing that the three eyes of the coconut (*stoma*) represented those of the god *Shiva*. Wondering how flotsam influenced history, I delved into these religious aspects.

Beachcombing opens doors to diverse lines of knowledge. On Wednesday, October 26, 2005, along Gulf Road in Apponagansett Bay, Massachusetts, **Mike O'Reilly**, Environmental Affairs Coordinator for the Town of Dartmouth, beachcombed a hairy brown coconut. Embedded in its husk, he discovered an aluminum, square-ish, five-paise coin minted in 1974 in India.

The Sikh religion makes much of the coconut and the paise coin. Sikhism began in sixteenth-century Northern India with the teachings of ten Gurus. The lineage of living Gurus continued for centuries, until the tenth told his followers that a book of Holy Scriptures, known as the *Guru Granth Sahib*, was to be their future guide. The Guru Gobind Singh opened the *Granth Sahib*, placed a five-paise coin

and a coconut before it, and solemnly bowed to it as his successor. Today, a five-paise coin has the approximate monetary value of a penny, but 400 years ago, five paise was a substantial sum.

Sikhism is the only religion in which scripture is worshiped like a living Guru. In these teachings, the word **"Guru" is composed of two words meaning light (RU) dispelling darkness (GU).** Bowing before the *Guru Granth Sahib* is akin to bowing before Divine Light. On September 1, 2004, Sikhs the world over celebrated the 400th anniversary of the first reading of the *Granth*. Many Sikh dignitaries gathered in the U.S.A. to celebrate it at the White House (perhaps they had heard of the famous coconut which sat on the desk of the oval office while Jack Kennedy was president — we will talk of this coconut later). To this day, coconuts are often presented as offerings throughout India. It is likely that on the shore five-paise and coconuts were offered to mark the 400th anniversary.

The condition of a coconut holds clues as to its drift longevity. When freshly dropped from its mother tree, it has a smooth, green skin. As it drifts, the husk disintegrates. ***"It is quite possible that the coconut did wash in from open sea,"*** wrote Mike. ***"Apponagansett Bay — where I found it — opens to Buzzards Bay. And Buzzards Bay is wide open to the Atlantic. It is not at all uncommon to have debris wash on shore. It is mostly derelict fishing gear, but all kinds of overboard debris can be found. You find some unusual things that are kind of curious, but never a coconut."***



Mike's discovery gave me a new appreciation for the significance of stranded coconuts. If others were set adrift in honor of the 400th anniversary, similar coconuts might have stranded around the North Atlantic Ocean. ***"On August 15, 2006, one was found at Melvaig, near Gairloch on the Scottish west coast,"*** reported Fiona Russell, a freelance journalist in Scotland. ***"A couple of weeks later on August 31, another coconut was found on Dunnet Beach between Thurso and John o' Groat's. Both had most of outer husk intact."*** So, I considered the drift rates across the North Atlantic Ocean to see if Scotland might be the source of the coconut that washed ashore in

Massachusetts.

My reasoning implies that Mike's coconut might have floated forty months. Given that the long-term average drift speed in the North Atlantic Ocean is seven miles per day, the currents could have transported the coconut nearly 3,000 nautical miles, thus ruling out India as a possible origin. Objects from India can reach the Americas along a drift route of more than 15,000 miles: south along east Africa, turn right around South Africa, then another right turn into the Atlantic Ocean to Florida and Massachusetts. The coconut hosted few barnacles, suggesting an origin in the North Atlantic Ocean as far away as Europe. Thus, Scotland along with other sources in the U.K., might be the location where the Massachusetts coconut could have originated, as described below.

After reporting the Sikh festival, I learned of Hindu beach festivals from the newsletter *The Drifting Seed*, edited by my friend **Ed Perry IV**, author with **John V. Dennis** of *Sea-Beans from the Tropics*. Many Indians have immigrated to the United Kingdom where they continue celebrating ancient

festivals. The following, derived from the reports by **Dr. Roger A. Hewitt** in the September 2009 issue of the *Drifting Seed* newsletter, come from the vicinity of London.

At the mouth of the Thames River facing the North Sea, Hindu beach festivals took place at Shoebury on September 16, 2007. A year later, on September 13, this festival was repeated during the noon high tide. Both festivals involved the floatation of coconuts. Most of them remained on the beach as broken shells. Another was seen, with a black skin and partly pink endosperm, on the Shoebury strand line formed two days after the Raksha-Bandhan festival on August 16, 2008.

During Raksha Bandhan, on the fifteenth day of Shraavan (July or August), to honor Varuna, god of the sky, water, celestial ocean, law and the underworld, in some parts of India coconuts are offered to the sea. *"In the days when the gods warred with demons, the consort of Indra (Puranic King of the Heavens) tied a rakhi (a silken amulet) around his wrist, by virtue of which, it is said, the god won back his celestial abode from his enemies."*

As a mark of auspiciousness, coconuts are also broken at shrines and temples. However, at most places, it celebrates the love of a brother for his sister. On this day, sisters tie *rakhi* on the wrists of their brothers to protect them against evil influences. In some places, before tying the *rakhi*, barley saplings are placed on the ears of the brother.

Raksha-Bandhan appears to be when numerous coconuts are also floated in the canals at Southall in London. Like the Sikh August or September festival, *"Hindu festivals are, at least in theory, timed by their lunar calendar and therefore to oceanic tides. For example, Ananta-Chaturdashi, worship of Vishnu, is observed on the day before the full-moon day of the lunar month Bhadrapad, and the start of the public festival of Ganesha is on the fourth day of that month when the full-moon day is counted as the 15th."*

It is unlikely that these and the other stranded coconuts from Chalkwell and Westcliff originated from the Shoebury festival. However, before the major festival started in September 2005, coconuts stranded from earlier smaller Hindu meetings. A London coconut had floated thirty-four kilometres **along the Paddington and Regent's Canal from Bull's Bridge. It had to pass three more sets of locks** to reach the River Thames at Limehouse. Flotation tests conducted by Hewitt indicated that coconuts could remain floating for 722 -1,571 days, long enough to float across the North Atlantic Ocean. These reports by Dr. Roger A. Hewitt reinforced the possibility that the coconut found in Massachusetts might have originated in festivals held in the U.K.

That these festivals have survived for centuries begs the question as to how far back in time humans have utilized coconuts. To find out, I turned to the discipline of archaeology.

Kokoyashi

For as long as humans have eaten apples (earliest records date from circa 6,500 B.C.), coconuts have been found in archaeological digs. The oldest known transocean coconuts were found near Fukui along the Sea of Japan in a garbage dump on the Hasu River, where it drains into Lake Mikata. In a layer deposited 5,500 years ago, Japanese archaeologists discovered pieces of four coconuts, along with other seeds (walnuts and acorns), earthenware, and wooden artifacts, as well as the remains of log boats and tuna bones indicative of fishing deep, offshore waters.

About four thousand years ago, fifty miles east of present-day Tokyo, on the beach of Choshi City, an ancient beachcomber carried home a waterlogged coconut. Later, the villager fashioned it into a container and lacquered it. Perhaps a catastrophe such as a tsunami, earthquake or volcanic eruption, buried it in the muddy sediments.

In a two thousand year old stratum elsewhere along the Sea of Japan near Fukuoka, a coconut was discovered, along with earthenware jars. Ancient coconuts drifted from tropical climes to both the east and west coasts of Japan, as do coconuts in modern times. This dig is located not far from where high school teacher **Tadashii Ishii** has beachcombed for many years. How many coconuts might the people of an ancient village have found? In twenty five years, Ishii found 656 coconuts on a mile of beach, for an average rate of 26 coconuts per year. Judging by the thousands of miles of Japanese shoreline, the prehistoric seas must have been alive with drifters.

Japanese have maintained a long and intimate relationship with the sea, including the use of drifting objects. I learned of their modern day influence on culture through beachcombing. In 2002, over coffee in Seattle, **Nancy Yaw Davis** asked if I'd help convene a meeting in Sitka, Alaska, concerning the drift of ancient peoples from Asia to the Americas. One should never underestimate the power of beachcomber gatherings. Some Japanese attended the meeting. Over lunch at Sitka's *Little Tokyo Restaurant*, they told me of the importance of coconuts in Japanese society.

Japanese Poem

In Japanese society, coconuts have long been symbols of romance. Atop Japan's Atsumi Peninsula, from the Irago Promontory, sightseers overlook a beautiful beach where coconuts wash up. **Yanagida Kunio** visited this beach and found a coconut. Later, he recounted his beachcombing to his friend poet **Shimazaki Toson**. In the year 1901, Toson romanticized the coconut's journey:

Coconut

by Toson Shimazaki

There is a far away island, which

I don't know the name.

From this island came one coconut

floating on the ocean.

How long have you, coconut, been

drifting on the waves,

so far from the coast of your home?

Your tree must be grown over with

thick, leafy branches.

Casting its shade all around.

I am also a drifter, wandering without

a home.

I have used the seaside as my pillow.

Picking up this coconut and placing it

to my chest, I feel such a loneliness.

And the loneliness of my drifting life is

renewed in full.

When I behold the sun setting into the

sea, tears flow down my face.

For I am in an unknown place.

And yet, when my thoughts drift to the

comings and goings of the waves, I

know

that one day I will return to my

true home.

Another of the group of coconuts ended up in a different kind of celebration. The Ise Wan Ferry runs between the Port of Toba, Mie Prefecture, and the Port of Irago in Tahara, Aichi Prefecture. Between April and June, 1979, the *Ise Bay Ferryboat Company* celebrated its 15th anniversary by giving one thousand couples that were honeymooning on Rota Island (Marianas), a coconut to throw into the sea.

In the following months, beachcombers reported the honeymooners' coconuts downstream, in the North Equatorial Current near Guam, Miyake Island, and Mindanao Island in the Philippines. In a later effort, using coconuts to foster international peace, the *Ise Bay Ferryboat Company* screwed an aluminum medallion onto each coconut as if two friends were to toast: "*May the tides tie us together.*"

Cupid's Archery Range

The *Atsumicho Tourist Association* (ATA) has continued Japan's romance with coconuts. The waters immediately up current from Japan form an oceanic archery range in which the arrows (coconuts, like **cupid's arrows**) are thrown onto the **Kuroshio Current (transport)** which flows 300 miles north to **Japan's main islands (target)**. Individuals, schools and companies sponsor coconuts for 2,000 Yen each (approximately \$15 US).

ATA released coconuts in the vicinity of Okinawa from the *Vessel Southern Coral*. Affixed to each coconut was a medallion: "*Coconut Message of Love, Journey of Love No. (Number assigned to Irakozaki - Flowers & the Sound of Waves, sponsor of the coconut), Atsumicho Tourist Association. Set this coconut adrift on the waves and your thoughts will reach the faraway Beach of Love.*"

During seventeen years (1988–2004), A.T.A. sponsored the release of 1,964 Cupid Coconuts. The medallion affixed to each indicated the year of launch in Part Numbers in which, for example, Part II meant 1989, and Part XIV meant 2001. Each year, during the months of May through July, they released, on average, 115 coconuts. As the coconuts drifted northward, Japan divided the Kuroshio into two branch currents, one carrying coconuts into the Sea of Japan, the other branch transporting coconuts into the vast Pacific Ocean. Cupid, it turned out, fired many more coconuts to the east compared to the west. Of the Cupid Coconuts reported to ATA, a few (11%) veered west into the Sea of Japan, whereas the majority (89%) turned east into the Pacific.

On the Kuroshio Current, the coconuts drifted 300 miles. Overall, beachcombers reported only one out of 26 coconuts released, a 3.8 percent reporting rate typical of scientific messages in bottles. The Black Current, as the Kuroshio has long been known to Japanese fisherman, carried most coconuts past Japan into the Pacific. At this time of writing, no Cupid Coconuts have been reported from Hawaii and the Americas, probably because, en route, the medallions fell from the coconuts. The medallions did not carry contact information telling beachcombers where to report the coconuts, and affixing the medallions may have caused the coconuts to leak and prematurely sink.

As their rotted husks fell away, some will remain adrift as the newlyweds celebrate their fortieth wedding anniversaries. We can be certain of this endurance from the fates of other coconuts, as we will see in the next section.

Endurance

It was, I suppose, inevitable that the scientific culture, inspired by the seed flotation tests of **Charles Darwin**, would address the long-term drift potential of seeds, including coconuts.

August 1971 found John V. Dennis beachcombing the sandy shores along southeastern Florida, where I have spent many an October searching for flotsam. John had in mind flotation experiments of long duration, much longer than Darwin's. He knew that his test would have to run for years before his seeds sank. He had picked his location well. The drifts of 85,000 scientific messages in bottles, released in the Caribbean and Gulf of Mexico, had shown that this location was a major collection spot for flotsam. Amongst all this flotsam, beachcombers had over the years reported 125

species of tropical seeds. He was searching for seeds that had already been floating for some time, seeds he could take home for his experiments.

John gathered up dozens of seeds and placed them in gallon plastic containers open at the top and filled with seawater. He picked up a King Coconut and a sea coconut, which were both plentiful along eastern Florida. Given that the coconut was without a husk, it may have floated for a considerable time before he put it in the container. Every few months, John exchanged the water in the containers with water from the nearby ocean. When a seed sank, he removed it and noted its time afloat.

The interior hard shell of a coconut does not crack easily. On and on, the seeds floated, the epic experiment gaining fame and taking on a life of its own. Finally, near the end of his life, he had no choice but to ask his friend, Ed Perry IV, to take over the water-bearing duties. As I write in 2010, after 39 years, the sea coconut and King Coconut, stripped of its husk, both remain afloat in the tank.

These float times apply, of course, to laboratory conditions, so we cannot be sure if the coconuts we are following across the open ocean would drift for two score or more years. There is, however, **some confirmation of John and Ed's experiment from a message on a coconut that washed up 31 years after it was set adrift in World War II.**

Wartime Cocos

The most famous coconut-borne message must be the one dispatched during World War II by **John Fitzgerald Kennedy**, 35th President of the United States. While Lieutenant Kennedy commanded the Motor Torpedo Boat PT-109, a Japanese destroyer sliced his boat in half. The ramming killed two men and badly injured two others. The surviving crew swam miles to a small island by the name of Nauro. Kennedy carved a rescue message on a coconut and gave it to local natives to deliver to the Torpedo Boat base at Rendova Island, one of the Solomon Islands.

At great personal risk, through 65 kilometers of hostile waters, the native scouts delivered the following message: "NAURO ISL . . . COMMANDER . . . NATIVE KNOWS POS'IT . . . HE CAN PILOT . . . 11 ALIVE . . . NEED SMALL BOAT . . . KENNEDY." Kennedy and his men survived on coconuts for six days before rescuers found them. Later, President Kennedy kept the coconut on his desk in the White House oval office. It now resides in the John F. Kennedy Library in Boston.

Beachcombers often ask me to recommend non-polluting containers for their seaborne messages. They are concerned about introducing plastic and other non-biodegradable materials into the ocean. **Following President Kennedy's example**, I usually recommend coconuts because they are natural and plentiful. I also recommend coconuts as "messages in bottles" to beachcombers because of their flotation endurance, as exemplified by another example from World War II. According to **Bert Webber**, a Japanese soldier carved his farewell on the shell of a coconut. In 1942, as Japan's forces drove Americans from the Philippines, **General Douglas MacArthur** famously declared: "*I shall return.*" Among the invading Japanese, **Tatsushiro Yamanouchi**, 34, labored as a civilian war worker. Two years later, the Japanese retreated before MacArthur's advance, abandoning Yamanouchi in the jungle.

Shortly before the final battle, Yamanouchi sealed a farewell to his wife in an empty, husk-less coconut. On it, he carved a message, telling where the finder could reach his wife. Three months later, MacArthur landed at Leyte. Within months, Yamanouchi perished in the jungle.

Thirty-one years later, a contractor found the coconut floating a few miles from Yamanouchi's home near **Taisha Beach on the Sea of Japan.** "*The coconut floated over the waves and finally landed on*

our home beach," said his widow, 65, recognizing Yamanouchi's handwriting, *"because my husband's great desire had reached the heavens."*

Where had Yamanouchi's message drifted? The absence of barnacles on the coconut suggested a short time in the sea. It looked as though blowing sand had abraded one side of the coconut till typhoon waves refloated it. Then, like a salmon reaching home after years at sea ranging over thousands of miles, it drifted northward to Yamanouchi's wife.

Three decades is a long time, time enough to circle the earth along pathways known as Grand Tours.

Grand Tour

King Coconut has a split personality. With their husks intact, coconuts float at sea and remain viable for several months; with their husks removed, they may float on as one bony, gray stone has done for **thirty-nine years in John and Ed's tank flotation experiment. From this experimental endurance, I** speculated on the grand journeys our coconut group might make aboard the currents that entwine around our planet.

My favorite Grand Tour takes twenty-five years for a round trip along a track around earth starting and ending in the Indian Ocean. From the coastal waters off Western Australia, the Tour runs west across the Indian Ocean to East Africa, where it turns south to the Cape of Good Hope. From the southern tip of Africa, the Tour heads north and west to the great promontory of South America, and thence northward through the Caribbean Sea and the Gulf of Mexico, entering the North Atlantic Ocean at the southern tip of Florida, U.S.A. From there, the Gulf Stream takes King Coco across the Atlantic to Norway, and ever northward into the Arctic Ocean. For years, King Coco makes its way along the coast of Siberia, finally turning south through the Bering Strait to Japan. Then across the North Pacific to North America, then redoubles the North Pacific back to the Philippines. Finally, comes the last leg on which King Coco threads its way through the island archipelagos of its ancestral home in the Nesias, and back to Western Australia.

How far could a free ranging coconut drift during the thirty-nine years while their cousin was trapped in the flotation test tank? Assume that these far drifters do not wash up on a beach and the currents persisted in transporting the epic coconuts for all those fourteen thousand days afloat. On and on they drifted, beneath the stars and the moon, conveyed ever farther at typical ocean speed of five to eight miles per day. Our marathon coconuts could have covered a total distance of a hundred thousand miles. Small wonder that the hairless palm stones often wash up. How I wish they had carried devices to record their travels like human runners do with pedometers strapped to their waists.

I'd like to think that at least one coconut adventurer drifted on and on, having made its way 40,000 miles along a continuous band of currents, threading through the sea like film in a projector, spooling around the gyres of currents, and orbiting the oceans between the continents. This journey holds great insight into our changing environment. The value of travel, they say, lays not in the destination so much as the adventures had along the way. Then surely, these coconuts on Grand Tours must have had the most fabulous journeys. If only these epic wanderers could speak as in the story *"Manuscript Found in a Bottle"* by **Edgar Allan Poe. Our coconut adventurer no doubt has had many untold stories flow past it, an endless, undiscovered passenger making its way around the gyres of currents that continuously orbit the oceans. These gyres affect not just the waters they carry but the very climate above. With this in mind, the journey of our last coconut — as wondrous as its travels might have been — may very well hold even greater insight into our changing environment.**

Indeed, the oceans may very well be playing Johnny Appleseed with our world's future . . .

Originally published in English and French in *Journeys: How traveling fruit, ideas and buildings rearrange our environment*, edited by Giovanna Borasi (Canadian Center for Architecture and Actar, 2010), pp. 277-291.

Selected References:

A detailed list of references for this article would run to well over a hundred citations. For the sake of compactness, footnote numbers and citations have been omitted. The following references have been selected so as to lead interested readers to the appropriate detailed citations.

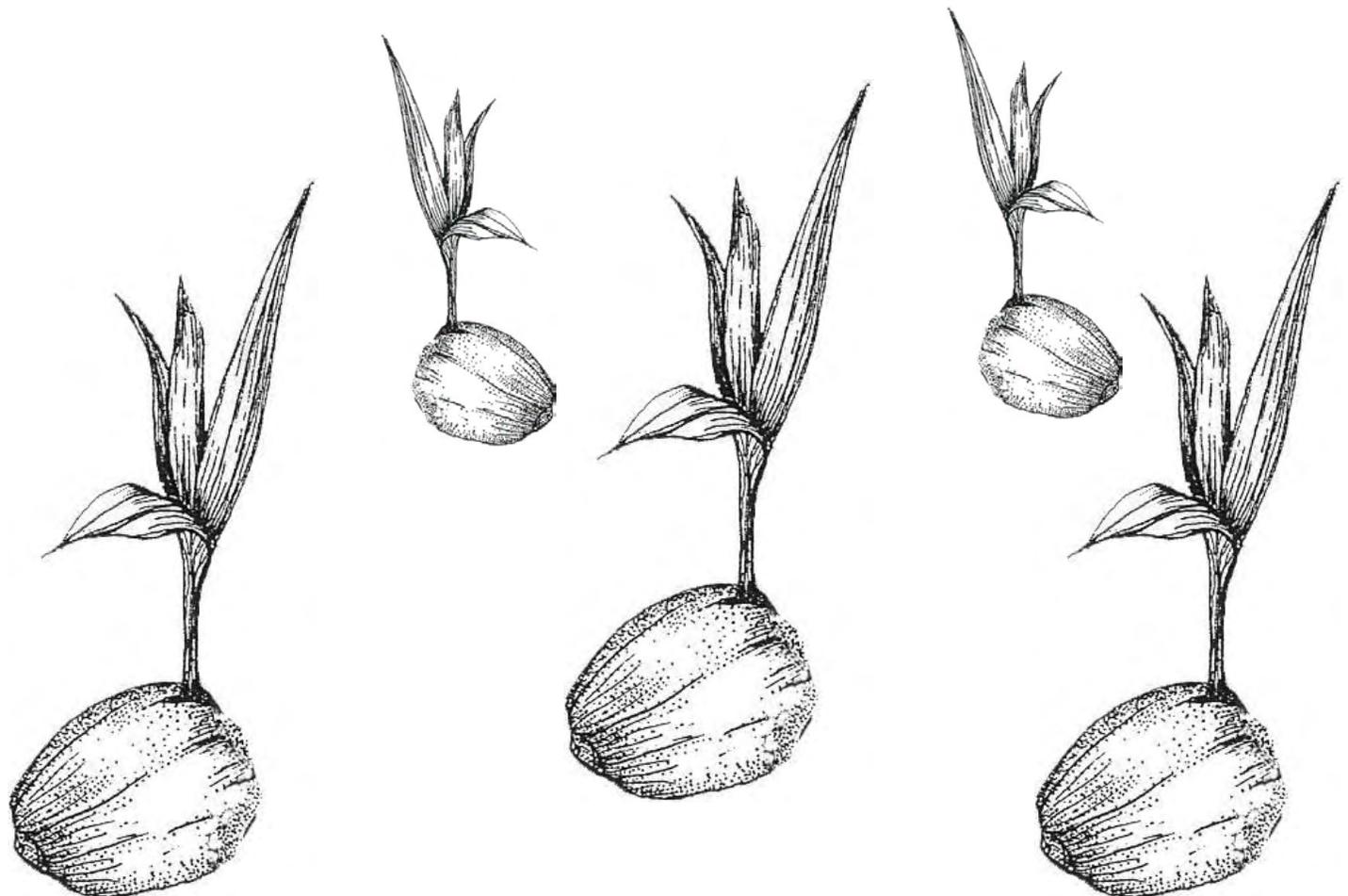
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Cruise Ship Sea-Beating the Yucatan Peninsula

by John Beerensson, beerensson@bellsouth.net; & Steve Uhl, stevenuhl@sandalsandskis.com

Many cruise ships going to the Western Caribbean are now stopping at the port in Mahahual, Mexico. Known as the Costa Maya, this area of Mexico has some of the best sea-beating anywhere. If you decide to take a cruise that goes there, a few helpful hints follow.

When you leave the port, take a cab or the shuttle into town. Locate the Tropicante Beat beach front location with shade, food and drinks. Steve Uhl is the owner, and if you tell him you are into sea-



beans, he'll make sure your day at the beach will be perfect. Steve can point out great sea-beating locations. If you have limited time like I had with my granddaughters, Kate and Ella, then you can stay right where you are. The beaches are hand raked. Believe it or not, that can be good news. We spent about an hour looking at the sweep piles off the beach and found a number of **Mary's, coralbeans, black pearls, burgers and hearts.**



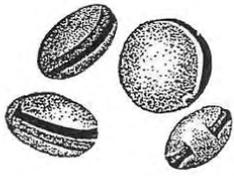
Steve's Tropicante is the place to go if you are on a cruise with only one day in Mahahual. You can e-mail Steve at his above email address. Remember to tell him you are a sea-beaner and Steve will have a spot reserved for you on the beach.

Check out their website at <http://www.sandalsandskis.com/Tropicante.html> and remember that if you aren't cruising, but want to stay a length of time in the area after a flight into Cancun, there is now a bus service bringing you to one of our favorite spots on the Costa Maya--The Mayan Beach Gardens owned and operated by Marcia and Kim Bales. Check out their accommodations at their website: <http://www.mayanbeachgarden.com>.

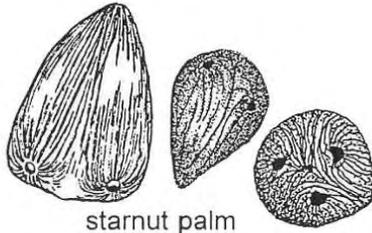


Simple Guide to Common Drift Seeds

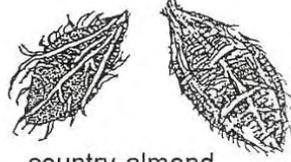
(Illustrations by Cathie Katz and Pamela J. Paradine)



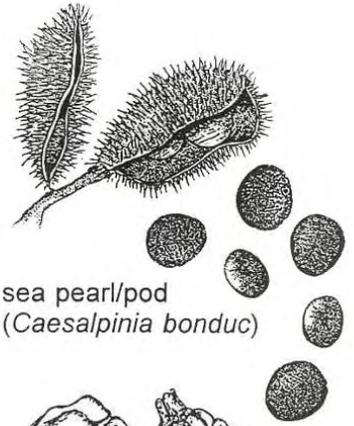
hamburger bean
(*Mucuna* spp.)



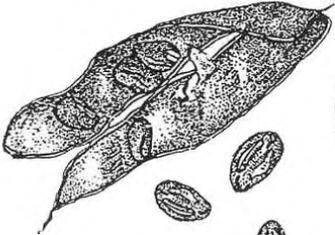
starnut palm
(*Astrocaryum* spp.)



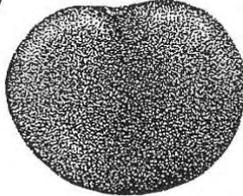
country almond
(*Terminalia catappa*)



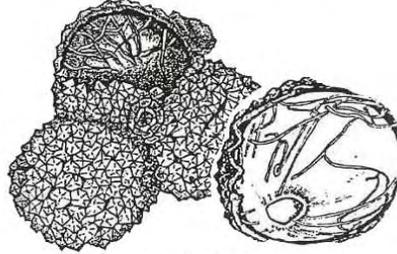
sea pearl/pod
(*Caesalpinia bonduc*)



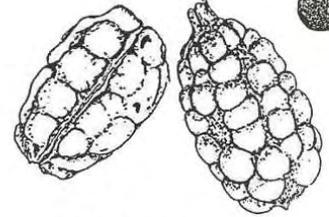
bay bean/pod
(*Canavalia rosea*)



sea heart
(*Entada gigas*)



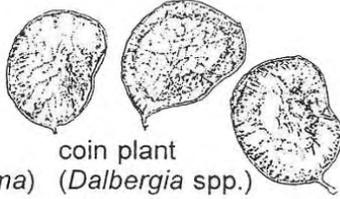
golfball/pod
(*Manicaria saccifera*)



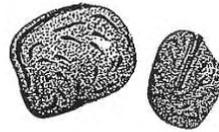
hand grenade
(*Sacoglottis amazonica*)



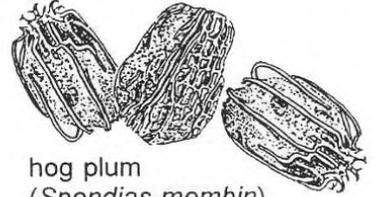
Mary's bean
(*Merremia discoidesperma*)



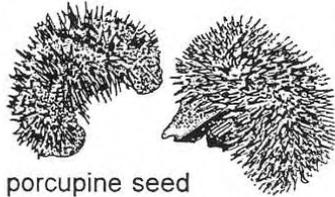
coin plant
(*Dalbergia* spp.)



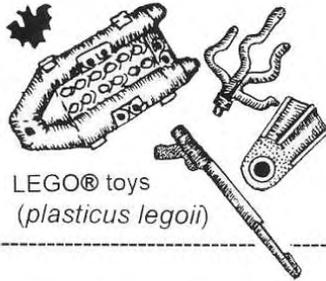
sea purse
(*Dioclea reflexa*)



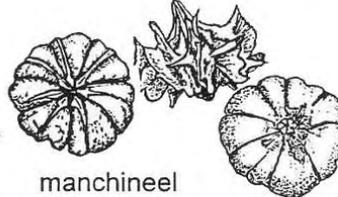
hog plum
(*Spondias mombin*)



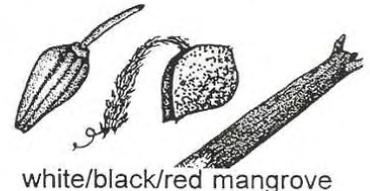
porcupine seed
(*Caryocar microcarpum*)



LEGO® toys
(*plasticus legoii*)



manchineel
(*Hippomane mancinella*)



white/black/red mangrove
(various genera)



The Drifting Seed

PO Box 510366
Melbourne Beach, FL 32951

