



The Drifting Seed

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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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Ed Perry, Editor and Publisher
Dr. Charles (Bob) Gunn, Advisor
Patricia Frazier, Production Editor
John Beerensson, Columnist
Stephanie Bernstein, Columnist
Dr. Gerhard Cadée, Columnist
Dr. Curtis Ebbesmeyer, Columnist
Dr. Roger Hewitt, Columnist
Dr. E. Charles Nelson, Columnist
Nan Rhodes, Columnist
Dr. Gerald Sullivan, Columnist
Dr. John Williams, Columnist

Paul Mikkelsen, Web Site Manager for www.seabean.com

**The 13th Annual International Sea Bean Symposium will be held at the
Cocoa Beach Public Library, October 17th-18th, 2008.**

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For Newsletter Subscription Information, Submissions, Donations,
or Seed Identification:

contact: **Ed Perry**, P.O. Box 510366
Melbourne Beach, FL 32951—USA

E-mail: seabean@seabean.com (Paul Mikkelsen)
or Seaheart88@aol.com (Ed Perry)

Smiley

Part I – *Mucuna* vs. *Dioclea* – No Problema!

Dr. Gerald Sullivan and John Williams

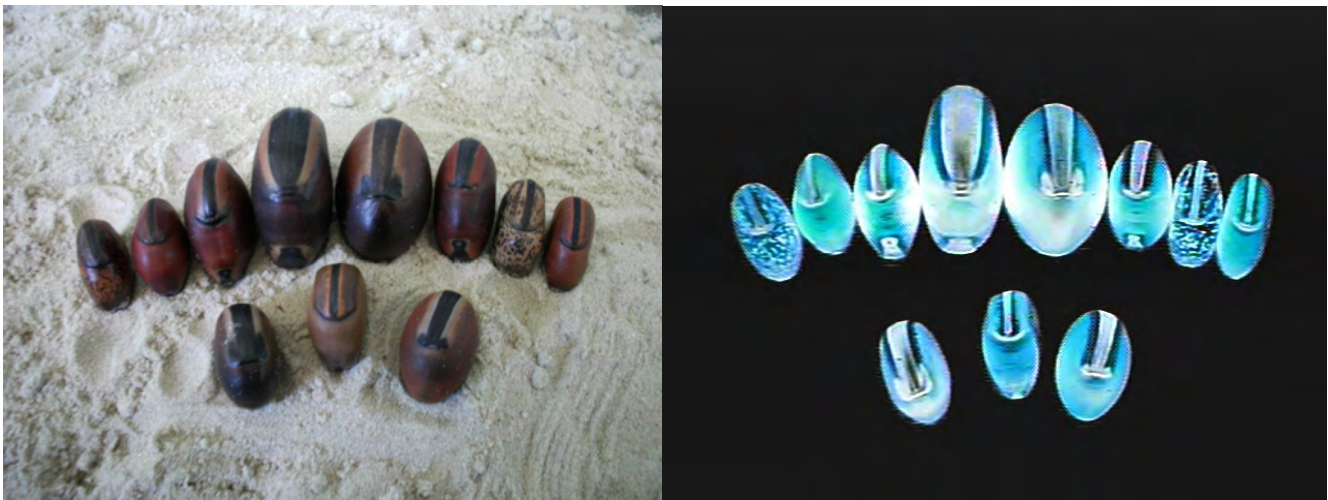
geraldsully@yahoo.com and john.williams@mail.utexas.edu

At the present time there are several ways available for the differentiation of *Mucuna* seeds from those of *Dioclea*. These would include (1) the use of a plant taxonomist, (2) chemical analysis and (3) seed morphology.

1. Plant Taxonomist. Generally a plant taxonomist does not rely on the plant seed for plant identification. Therefore, even if one had a plant taxonomist available, which is highly unlikely, it would be necessary to germinate and then grow the plant to maturity, which might require a year or more. Other pitfalls include, (a) your seed might not sprout or (b) your seed might rot. Regardless, your highly valued seed has been sacrificed for the advancement of science.

2. Chemical Analysis. This is a 100% reliable method for the determination of the genus *Mucuna*. If the chemical compound, dihydroxyphenylalanine (DOPA) is found to be present, the seed is definitely a *Mucuna*. Chemotaxonomic studies have established the fact that all species of *Mucuna* biochemically produce DOPA, whereas, no other plant genus, including *Dioclea* has this capability. Detection of DOPA can be accomplished easily by numerous well established chromatographic procedures. It is not necessary to be a "rocket scientist" but does require some high-tech training. The positive aspect of this procedure is that you retain your cherished seed. Following a micro biopsy of the seed's internal tissue needed for DOPA analysis, it is conceivable that the viability of the seed might also be retained. Simply seal the mini hole drilled through the seed coat with a dab of super glue and keep for possible future use or display. Obvious drawback is that chemical analysis is not readily available.

3. Seed Morphology. All species of *Mucuna* show some evidence of a SMILEY on the surface of the seed at the base of the hilum at the end opposite the micropyle. SMILEY is a non-technical term for a raised darkened mark or ridge usually black in color, which is either blocky or curved upward as in a smile as shown below on numerous *Mucuna* seeds.



In order to possibly enhance the SMILEY for easier detection, a Video Flex 7000 SERIES digital camera was connected to the computer and a series of photos taken with the positive/negative switch on negative. This allows the image to be reversed much like a film negative or a darkfield control on a microscope as demonstrated above.

The SMILEY on black colored *Mucuna* may be a shade more difficult to discern, but with a low powered magnifying glass they are easily detected or with a Video Flex camera as shown below.



If it looks like a *Mucuna* and smiling at you, it's gotta be a *Mucuna*.

Over four hundred *Dioclea* seeds were visually examined for the presence of a SMILEY. None was found, however all of these *Dioclea* seeds showed some evidence of a distinct rippled seed surface. The rippling of the seed coat could also be detected by rubbing the seed between the thumb and index finger. This rippling effect appears to be unique to *Dioclea*. The Video Flex was also useful in illustrating the ripples as shown below.



If it looks like a *Dioclea*, not smiling at you and has a rippled surface, it's gotta be a *Dioclea*.

Part II - *Mucuna sloanei* vs. *Mucuna urens* - No Problema!

Perhaps this problem is best stated as follows: "It is difficult to distinguish between the two most common true sea-beans found on Florida east coast beaches. Most collectors settle for *Mucuna sloanei* Fawc. & Rendle instead of trying to identify the less common *Mucuna urens* (L.) Medikus. *Mucuna sloanei* are more grayish brown instead of reddish brown and have a grayish instead of a yellowish border at the edge of the hilum.

It takes a good eye to make out these slight color differences. The two have similar shapes and vary to the same degree in their measurements.”(1)

SMILEY comparison is the key and quite straight forward. *Mucuna sloanei* seeds possess a black, blocky shaped SMILEY, whereas *Mucuna urens* seeds have a black, thin, curved Mona Lisa-like smile as shown below.



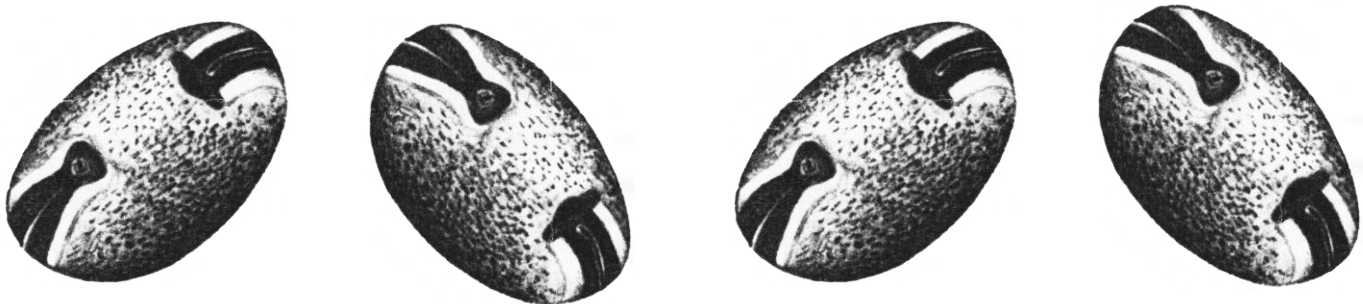
It's that simple folks. No problema!

NOTE: If you are fortunate enough to own Editor Ed's *Sea-Beans from the Tropics* (1), refer to page 165 for ripples of *Dioclea*; pages 177 & 178 for SMILEYS of *M. sloanei* and *M. urens*, respectively. At this early point, it might be presumptuous to speculate that species differentiation among other *Mucuna* might well be assisted by SMILEY recognition. Remember, just keep SMILEY – ing.

Reference

I. Perry, E.L. and J.V. Dennis. 2003. *Sea-Beans from the Tropics. A Collector's Guide to Sea-Beans and Other Tropical Drift on Atlantic Shores*. Krieger Publishing Company, Malabar, FL. 232 pp.

In some instances, the obvious is nearly invisible.
Navillus, 2008



The Drifting Seed, 14.1, May 2008

Invasion of Sea Pea Seeds on the Dutch Coast

by Gerhard C. Cadée, (cadee@nioz.nl)

The sea-pea *Lathyrus japonicus* subsp. *maritimus* is a seashore plant with a circumpolar distribution in the Northern Hemisphere. It grows along the Atlantic and Pacific coast and reaches in Europe its southern limit near the Netherlands. It is only once in 1920 reported from the Belgian coast (Rappé, 1984). It occurs on the south-eastern coast of Britain and a few records exist from the north-west coast of France. The seeds float and are dispersed by sea-currents. They are small (diameter circa 5 mm), green to brown round peas, with a scar (hilum) of about one quarter of the circumference (see Fig.). They can remain floating for up to 7 years. Nelson (2000) suggests that the seeds found in Cornwall and Ireland are transported from North America, and as mature, seed-producing plants are very rare along the western seaboard of Britain. The only record of a sea pea growing in Galicia (Spain) may also result from seed transported from North America.

Drift left on the beach of the island Texel and Den Helder on the Dutch mainland opposite Texel after an extreme high water in November 2007 contained a relatively high quantity of seeds of the sea pea. Tens of seeds could be easily collected in a short time, whereas since 1982 I had sampled only a few seeds—one or two in a time—on the same locations. Texel and Den Helder in the



Northern part of the Netherlands are the only locations where in the past sea pea seeds have been collected in drift (Cadée, 2000; Brochard & Cadée, 2005). This may be mainly due to the fact that nobody has really searched for these relatively small drift seeds. The drift contained also a high amount of translucent plastic pellets of about the same size as the sea peas, as well as other drift seeds in almost equal numbers as the sea peas of European coastal plants such as sea kale *Crambe maritima* and sea rocket *Cakile maritima*. The origin of the sea pea seeds might be from the North. In Denmark and Germany this northern species is more common. This implies a current differing from the usual residual current from S to N along the Dutch coast, but with persisting winds from the North such current reversals do occur (Furnes, 1980). In particular the surface layer with its drift will be affected by these persisting northerly winds. The extreme high water in November was related to a NW gale.

Linnaeus (1737 *Hortus Cliffortianus* p. 369) was the first to report the sea pea growing on the Dutch coast, but up to 1973 it was never mentioned again. In 1973 it had 'returned' and was found growing (in Den Helder, Schendelaar, 1976). In 1975 it was observed growing also on Texel and later on a few more localities in the Netherlands. However, too few to deliver the hundreds of seeds that must have arrived on the coast of Texel and Den Helder in November 2007, and probably on other parts of the Dutch coast as well. I left most of the drift untouched, also seeds I found that were already germinating I did not collect.

I hope this invasion of seeds will result in more reports of the plants in 2008 and later years. It takes several years for a sea pea to become a flowering plant. However, the dikes on which they grow in the Netherlands are a dangerous habitat for them, because of frequent maintenance operations. Moreover, the sea pea is very sensitive to trampling and has vanished locally along the Lithuanian coast due to the increased numbers of visitors (Olsauskas & Olsauskas-Urboniene, 2001).

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The Drifting Seed in Fiction

by Dr. E. Charles Nelson

I have to credit this discovery to Sue, who is an inveterate reader and scours the shelves of the local library for new, readable novels on a weekly basis when we are at home, and then reads them! Sue is very familiar with drift seeds, and even found one herself outside a local pub in our very elongated village 25 kilometres inland from the nearest coast—this seed remains a mystery. We have also found them while walking along the north-west coast of Lanzarote in the Canary Islands (as reported in *The Drifting Seed*).

One day she was reading a new novel and asked me if I had heard of *The Drifting Seed*. Needless to say I replied that I did, and my curiosity was aroused. She said it was mentioned in the book she had just finished. I took a copy of the page and the cover and placed the book at the top of my “must read” reading list.

The book that Sue had “unearthed” is Rebecca Smith’s *A Bit of Earth*, published in 2006—I have now read it and enjoyed it, not least because of the botany it contains.

I thoroughly recommend this book to sea-beaners and their friends. It is a tragic yet heart-warming story, an exploration of the effect on a father and his four-year-old son of the totally unexpected death in a car crash of Susannah, Guy’s wife and Felix’s mother. Guy is a Professor of Botany, and the book is set in the overlooked and neglected botanical garden at his English university.

There are early reference of seeds that could be sea-beans. Uncle Jon, Susannah’s brother, has a habit of sending esoteric presents to his little nephew including “a huge box of seed pods (which Guy and Felix worked out were from starnut palm, Mary’s bean, crabwood, and sea coconut) ...”. Later, depressed and morose after the accidental death of his wife, and when “too tired to work” Guy would surf the Internet and read on-line journals. “*The Drifting Seed* ... was a particular favourite.” He also ordered books from a well known Internet retailer: “Dad is always ordering stuff on Amazon,” explained Felix – and having obtained one book, but in need of a birthday present, he wrapped the book and gave it to Erica, a graduate student and close family friend. It was *Sea-beans from the Tropics: A Collector’s Guide to Sea-Beans and Other Tropical Drift on Atlantic Shores*. Guy was reluctant to part with the book. “He hoped he might get to read it too.”

There is quite a lot more flotsam and jetsam in *A Bit of Earth*: turtles, container-loads of Weebles, Action Men, and those improbably famous plastic ducks. They are incidental, however, to the main story about a little boy and his dad struggling to live after the mysterious and cruel accident that killed the person they depended on so much.

Rebecca Smith, *A Bit of Earth*. Bloomsbury Publishing, London. 2006 (2007 paperback).

Ampules

by Dr. Curtis Ebbesmeyer

"Reading your article on ampules (July 2007 Alert) brought back a semi-unpleasant memory to me," emailed **Bob Cline**, veteran beachcomber, Long Beach, Washington. "In 1958, when I was a senior in high school taking Chemistry, I had a cautious rapport with my teacher, but none with the vice principal. I had found an ampule (on Long Beach Peninsula in 1958) just like the one in your article. Since we were studying chemical analysis, I thought that this would be a great project for my teacher and myself. Unfortunately, when she saw it, she took it away from me and said she and the VP would investigate it in the evening. Their investigation consisted of throwing it away without any study or analysis. This was my first experience with science and politics. Needless to say, I was furious the next morning, but there was nothing I could do."

Read on for the experience of another young person.

At the *Sea Bean Symposium* held in Cocoa Beach, Florida, on October 20, 2007, 12-year-old **Caleb Wiggins** won the 2007 Non-Bean Award (see seabean.com). Many awards are given to the best sea beans, but I awarded one prize for the best flotsam that is not a bean. He submitted a glass ampule he'd found on the beach near Cocoa Beach that day, the first I'd seen with a label. The clear glass ampule held a milk chocolate-colored fluid. A white line at the neck told the technician where to break the glass. Labels lettered in purple were stenciled on the ampule: in large block letters "FUROSEMIDA-50 50 mg / 3 mL"; a manufacturer's elliptical logo like that of the Ford motor company "Quimefa"; "06011" just above note "7 2007" (does this stand for July 2007?; "vence; 1-00-625-EA."



The drug furosemide is a diuretic which causes the human body to excrete water as well as potassium, sodium and chloride. It is amongst the strongest such drugs available, having an extremely dramatic effect on fluid levels in the body. Athletes use such diuretics for specific purposes, including dropping water to make adjustments in their weight class standings. Since the weigh-in is most often a day or days before a competition, one can drop their body weight considerably and be back to normal within hours after re-hydration resulting possibly in the athlete competing at a much heavier weight than believed. Bodybuilders also may rely on this drug when preparing for a contest by lowering subcutaneous water concentrations, helping to produce a super-rippled look.

The Original Seed Beads
by Stephanie Bernstein, QueenSeaBean@aol.com
Lake Worth, Florida

I have had a passion for beads since early childhood. In kindergarten I used to marvel at my little 25 cent pink smiley face bead my Granny purchased for me from Dell's Novelty in Morristown, New Jersey. Since then I've expanded my fascination for beads to include a wide array of gems. While attending college I created all sorts of wonderful beaded jewelry to sell at local bead shops in Wilkes-Barre, Pennsylvania. I used predominately African trade beads and tiny glass Japanese seed beads for my artwork but now I work mostly with sea beans— "the original seed beads."

While living in Phoenix, Arizona for the past few years I discovered the Bead Museum in the neighboring town of Glendale, Arizona. I was so thrilled to find a museum dedicated to objects of my desire! The Bead Museum is exciting and surprising with fascinating exhibits of beads throughout history. While studying each display case I learned of the importance of how these small perforated objects express wealth and beauty and symbolize spiritual expression and personal adornment. Beads are tremendously diverse found all over the world.

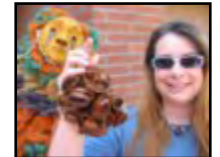
As Bead Museum family members my husband Steven and I regularly visited the museum on Thursday evenings. While touring the exhibition *nyama: The Vital Force in African Ceremony* which ran from April 2006 to April 2007 we were tickled with joy to see among the collection a mask (see photos) made by the Dan people from Côte d'Ivoire (Ivory Coast) of Africa adorned with hamburger beans (*Mucuna sloanei*). As I stood before this rustic African statuette encircled in both *beads* and *beans* I felt two worlds collide. I was intrigued to see such an exotic artifact decorated with something so



familiar to me as hamburger beans!

The museum information plaque explains: "In Dan society, masks are created to deal with a multitude of elements, including: education, competition, war/peace, ranking and entertainment. This mask represents a spirit of the bush, a guardian of initiation camps where boys are instructed into manhood through dance and ritual song. The cowrie shells (*Cypraea moneta*) indicate that the spirits have blessed the initiates with wealth." The hamburger beans embellishing this marvelous handcrafted relic are from the point of origin and a natural resource found in great abundance from the plants themselves. Côte d'Ivoire is a West African country seated on the coastal edge of the Atlantic Ocean and so it is very likely that the hamburger beans that turn up on our Florida beaches are the same beans coveted by the Dan people!

I returned to the museum not only to marvel at the curious hamburger clad effigy again but to attend the *African Family Fun Day* on Saturday September 23, 2006—a special one day event full of fun and exciting native African dance, authentic tribal music and a bead trunk show. I immediately noticed the African musicians using all sorts of creative botanical instruments (see photos) to produce interesting and unusual sounds. For example insect cocoons with pebbles for a rattle and another one fashioned with natural rope and sliced sea hearts (*Entada gigas*).



After the African festival I felt inspired to contact Gabrielle Liese, Bead Museum Founder & *Director Emeritus*, who graciously invited me to her Bullwhacker Ranch in Prescott, Arizona to discuss the relationship between the historical, cultural and artistic significance of botanical seeds used as beads. So I gathered up my beloved collection of sea beans in preparation for my visit to talk beads with Gabrielle and to show her the wondrous drift seed diversity we Floridians are fortunate to have washed upon our shores. I brought my many cigar boxes full of polished sea beans from years of collecting as well as my favorite sea bean books. I even took my most prized jewelry handcrafted from my best sea beans for Gabrielle's review.



Far away from home my sea beans found a friend in Gabrielle; we both combed over my collection touching and admiring each precious seed while I explained in depth the remarkable journey of how tropical drift seeds become parked on Florida sands. Steven and I spent a lovely Sunday afternoon visiting with Gabrielle at her ranch engaged in pleasant conversation, pensive dialogue and thoughtful discussion. Gabrielle is a fascinating woman full of colorful stories of world travel, adventure and exploration. We both share the same enthusiasm and excitement for beads as well as a common love for the great curiosities that these small curios incite. We both find it hard to deny the special joy and satisfaction they bring!



Gabrielle especially appreciated my *sea bean sampler bracelet* consisting of one unique sea bean after another to complete an eclectic circle of beans. Whenever I come across curious tourists on the beach back home in Florida I like to use this bracelet as an example of just some of the amazing sea bean shapes, sizes and textures one can find while beachcombing. After many visits to the Bead Museum and discovering not only many beautiful bead exhibits and fantastic displays I finally had the pleasure of meeting the charismatic woman responsible for the museum's inception.

The Bead Museum in Glendale is a world class destination for bead-related studies, education, exhibition, collection and preservation. The Bead Museum celebrated its 20th anniversary in 2006 and recently completed an expansion project that includes not only expanded museum space, an inviting bead shop but an impressive research library that has doubled in size to accommodate a wealth of bead books and a collection of archives.

As part of the priority to preserve and interpret beads from around the world, I donated my signed copy of Ed Perry's book *Sea-Beans from the Tropics: A Collector's Guide to Sea-Beans and Other Tropical Drift on Atlantic Shores* to Gabrielle Liese for the Gabrielle Liese Research Library—a 400 square foot library within the museum that houses hundreds of volumes of books on beads, adornment and cultures. The Bead Museum is a wonderful resource for learning and research and I'm sure Ed Perry's book will prove to be an essential addition and indispensable treasure for the Bead Museum's extensive library.



If you happen to find yourself in the Valley of the Sun be sure to stop by downtown Glendale, Arizona (home of Super Bowl XLII) and visit the Bead Museum and their fabulous collections. You might just come across something familiar in the most unusual place—sea beans in the Sonoran Desert!

The mission of The Bead Museum is "to promote appreciation of the historical, cultural and artistic significance of beads, adornment and related artifacts from ancient, ethnic and contemporary cultures by means of collection, documentation, preservation, education and exhibitions." The Bead Museum was founded in 1984 by Gabrielle Liese to establish a safe haven for a permanent collection of beads and adornments of all cultures, past and present, which provide an enduring opportunity for the study and enjoyment of these magnificent examples of art and ingenuity. This unique museum houses an international collection of over 100,000 beads and beaded artifacts. The museum serves the public by featuring permanent and changing exhibitions as well as education and outreach programs of lectures, tours and classes for the visitor. For more information contact the Bead Museum at 623-931-2737 or visit their website at www.beadmuseumaz.org

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- The Bead Museum, www.beadmuseumaz.org (website)
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A Spherical Starnut (*Astrocaryum* sp.) from the Dutch Coast

by Gerhard C. Cadée & Raymond van der Ham,
Royal Neth. Inst. Sea Research (Cadee@nioz.nl)
& National Herbarium of the Netherlands (Ham@nhn.leidenuniv.nl)

Astrocaryum is a genus of palm trees with many species. *Astrocaryum* nuts described in drift seed literature are all pear- or tear-shaped, rounded at the base and with a pointed tip. The rounded base has usually three pores from which radiate grooves that converge to the tip (Gunn & Dennis, 1976; Nelson, 2000, Perry & Dennis, 2003). Starnuts are rare from European coasts, but Nelson (2000) mentions that between 1990 and 2000 several have been collected from beaches in Ireland (Galway, Inisboffin) and Britain (Cornwall, Hebrides).

The first Dutch starnut was collected by Pieter Smit in 2004 near den Helder (see Cadée & Smit, 2006). Here we report on an almost spherical *Astrocaryum* nut found in September 2007 on the Dutch North Sea coast by the second author (Fig. 1). Its form differs from the tear-shaped starnuts usually reported in drift-seed literature. Dr. J. Dransfield from the Royal Botanical Gardens, Kew, however, agreed with its identification as *Astrocaryum* sp. As illustrated in Roosmalen (1985) some *Astrocaryum* species produce almost spherical nuts. The nuts of one of these, *A. vulgare* are known as awara in Surinam. The orange fleshy outer layer of the fruits is used to colour for instance rice. The nuts look marvellous when polished and might be used in necklaces etcetera. We are therefore reluctant to see this nut as a real tropical drift seed from the Dutch coast and will look whether it is imported by man and available in Dutch flower- and curiosity-shops as so many other drift seeds (Cadée, 1997). However, it also may be a real tropical drift seed. We should like to know whether such spherical *Astrocaryum* nuts are regularly found on the Atlantic coast of America. We know of one, with a diameter 3.8 cm, in the collection of Christophe Brochard from



the coast of Costa Rica.



Figure 1

Literature

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Gunn, C.R. & J.V. Dennis, 1976. *World guide to tropical drift seeds and fruits*. Demeter Press, New York. 240 pp. (reprint 1999 Krieger Publishing Company, Melbourne, Florida).

Nelson, E.C., 2000. *Sea beans and nickar nuts*. Bot. Soc. Brit. Isles, London. Handbook no 10: 1-156.

Perry, E. IV., & J. Dennis, 2003. *Sea-Beans from the Tropics*. Krieger, Melbourne Fl. 232 pp.

Roosmalen, M.G.M., 1985. *Fruits of the Guianan flora*. Inst Syst. Bot. Utrecht Univ. 483 p.

Fig. 1. The spherical *Astrocaryum* sp. from the Dutch coast, collected the 20th of September 2007 between Kijkduin and Scheveningen by Raymond van der Ham, length 3 cm, diameter 2.6-2.7 cm.

Ghost Crabs, Sea Purses and Jack Russells

by Nan Rhodes

www.beachbeans.com

My dog, Buddy, goes beachcombing with me occasionally. Just recently, I've found him to be a good sea-beaning assistant. Buddy spent most of his life in the Bahamas where he dug up ghost crabs on the beach—not just for fun, but also for snacks. When he moved to Florida, trips to the beach became less frequent, but he never lost the skill necessary to drill his entire body down into a crab tunnel often resulting in his rear legs sticking out of the sand, flailing about in the air. There have been moments where I've had to yank him out by the tail before he inhaled too much sand. Don't fret, crab lovers—he rarely catches (and eats) more than one crab per trip.

The last time Buddy and I went to the beach, he poked his snout down a potential snack hole and started the dig. With the first paw full of sand, he threw a buried sea-purse up onto the toe of my shoe—and what a beauty it was!

Thanks to Buddy, I had a beautiful new sea-bean... but a question re-surfaced that I've been wondering about for years.



I first noticed sea-beans next to, or not far from, ghost crab holes while sea-beaning in Texas. I found more sea-purses than hamburgers or hearts next to holes. I wondered if the crabs dug a hole next to an attractive sea-purse, using it as a marker to find their hole (like we do with our names on our mailboxes). OR... do the crabs drag a bean to their already excavated tunnel entrance?

If they don't use the sea-bean as a marker, are they saving it for snack value—maybe peeling off the microorganisms that have grown on the bean while in the ocean—a taste treat for ghost crabs? If this is the case, and since sea-purses usually don't have that much stuck on them, why not take a sea heart (maybe too large?) or a hamburger bean (maybe not pretty enough?) to place next to your tunnel entrance? Or if you were a crab, and sea-beans provided snack material, why not dig your new home next to that hefty sea heart with all the crud stuck on it?



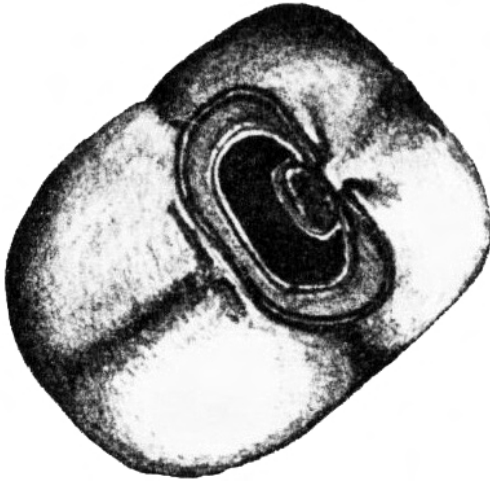
Ahh—one of the mysteries of the beach. I think I'll take Buddy down to the sand and see what he can find for me today.

Watch Buddy dig up the beach on YouTube: <http://youtube.com/watch?v=4TS1soYFFAE>

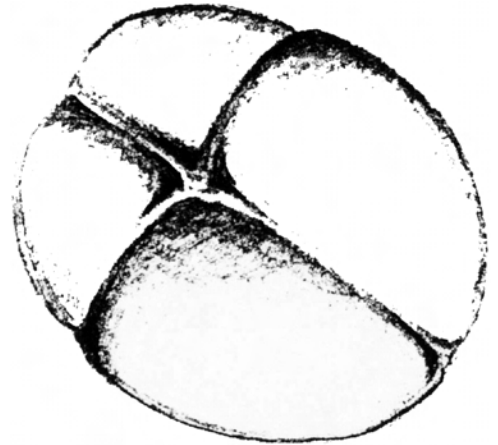
The Biggest Mary's Bean

by John Beerensson, beerensson@bellsouth.net
Merritt Island, Florida

Once again, size does matter. Does hyphenation also matter? Is it *Mary's Bean* or is it *Mary's-Bean*? Only *Merremia discoidesperma* cares . . . maybe she doesn't. But I digress.



The Mary is a favorite among sea-beaners. Perhaps it is because of its rarity on our shores, or perhaps it is because of its shape and indented cross. Most beaners have read about the folklore surrounding this gem. If you have not, then pick up one of these books (better yet, get all three): *Sea-Beans from the Tropics* by Ed Perry and John Dennis, *World Guide to Tropical Drift Seeds* by Bob Gunn and John Dennis, and *Sea Beans and Nickar Nuts* by Charles Nelson.



Tropics by Ed Perry and John Dennis, *World Guide to Tropical Drift Seeds* by Bob Gunn and John Dennis, and *Sea Beans and Nickar Nuts* by Charles Nelson.

Let's get back to size. Most Mary's are about 20 mm in length. A very few approach 25 mm. Maybe global warming is producing bigger plants and bigger seeds. Maybe not. In any event, a monster Mary came ashore into my waiting arms this past January. With a length of 31 mm it is the biggest Mary I have ever seen. To boot, it also has a nice golden-brown glow around the edges. Whoa!!, do I have one that is both big and beautiful, or what!?!? But I digress again. Beauty doesn't matter when you are talking size.

Sooooooooo . . . Ed Perry, Barbara Rolph, Michele Kelley, Nan Rhodes, Margie Mitchell, Bill Blazek, Christopher Boykin, Alice Lowe, Alice Surrency, Mary Bowman, Paul Mikkelson, Deb Trachtman, Pat Fraizer, and all of you other Florida beaners; Mike and Sam Burnett, Jerry Sullivan, and all you other Texas beaners, Curt Ebbesmeyer in Washington, Bob Gunn in North Carolina, Wayne Armstrong in California, Cathy Yow in Illinois, Stephanie and Steven Bernstein in Arizona, Jeremy Smith in Australia, Gerhard Cadée and Wim Kruiswijk in The Netherlands, Charles Nelson in the UK, Sue Bradley in Japan, and all you other beaners, wherever you live . . . **just how big do these things get??**

Big is defined as length. Let Ed Perry or me know if you have one that's bigger than 31mm. I don't think you do. Unless we hear to the contrary, at the next Sea-Bean Symposium, I'm going to brag that mine is bigger than yours.

Alice Surrency, shown here in Cozumel, with the biggest Mary's bean the editor has ever seen.



Avocado Fruit as Vehicles for Seed Dispersal

by Dr. Roger A. Hewitt, 12 Fairfield Road, Eastwood, Leigh-on-Sea, Essex SS9 5SB, U.K.

Beaches in the Netherlands have been searched for drifted seeds for fifty years (Brochard & Cadée 2005) but it was not until the summer of 2005 that the whole fruit of the avocado *Persea americana* was reported by Zandvoort by Wim Kruiswijk, following the discovery of the split and non-buoyant seed of that species in Texel in August 2006 (Cadée 2007). Both freshly dissected and dried seeds of avocado are considerably denser than seawater, but the fruit itself usually floats and can disperse them in Europe now that they are commonly imported. Whole fruit seem less likely to be discarded from a ship or beach picnic than the seed, or cheap apples and oranges. Two possible reasons why one occurred on my local beach at Southend-on-Sea 170 to 200 land miles upwind from the Dutch sites, are as follows. They are sold in supermarkets with adjacent best before dates on them and may be thrown on to the beach from seaside restaurants overestimating the number of visitors that week. Secondly, they may be offered a puja to the gods of the Hindus and floated as a representative of those then eaten in their beach festivals. Both explanations are as yet unsupported by evidence. A suitably positioned annual festival was first held by two thousand Hindus in September 2005. It was attended on September 16, 2007 by seven to ten thousand along a 0.6 km beach extending north-east from latitude 51° 31' 41" N. at longitude 0° 48' 0" E. This festival can be found illustrated on the Internet as Ganesh Visarjan or Hindu Unity Day. Ganesh is represented by an elephant-headed idol washed at high tide around 15:00 Hrs. G.M.T. The high tide on the afternoon two days later stranded a hemisphere of coconut flesh near where I subsequently found the segment of black avocado supporting the smooth seed (seed length 49.3 mm, transverse diameters 42.2 by 41.2mm, when dried and more contracted). It was on a rain storm strandline of September 28-29 in Thorpe Bay, 3 km to the west and I collected it on October 16, 2007. Following experimentation it seems unlikely that avocado fruit released at that time of year could reach the Netherlands a year later.

A cheap bag of our green-skinned avocado were floated in a box of diurnally aerated and frequently changed local seawater, with the stranded segment and three whole black-skinned avocado fruit. The green specimens sank after 0.01, 3.08, 5.93 and 45.7 days in declining water temperatures of 57 to 47° F (14 to 8° C). After the seeds had dried for some months they were found to be considerably contracted, with irregular wrinkled surfaces not seen on the also somewhat contracted seeds of the black-skinned avocado. They were of varied lengths but with maximum dried transverse diameters of 25.9 to 30.8 mm, compared to around 40 to 42 mm in dry black-skinned material.

The green fruit came from Chile and the black purchased ones were from South Africa. The Chile specimen, which floated longest, had a brownish skin. All the black fruit except the stranded segment changed to the green colour below the waterline before sinking. The three rapidly sunk Chile specimens did not float in tap water and they sank in an order predicted by their original density (as reflected by initial chords above seawater). Subsequently estimated relative volumes of their dried seeds were 8.1% for 0.01 day and 6.8% for 5.9 day. Brown and black-skinned fruit depend for floatation on the resistance to cracking of the skin. The black variety has dried seeds forming an estimated 11 to 13 % of the fruit volume. The exposed flesh of the segment was able to float for 47.3 days since it did not have to support the seed in my test. With this added burden one cheap black fruit sank in 38.2 days and two more expensive "organic" black fruit in 60.4 and 84.1 days. In the sea decay and splitting of the skin is likely to be more rapid and either release the seed or sink the whole fruit. Judging from the stranded segment there is some strength in the attachment of decayed flesh to the wet seed. Sinking of whole fruit on a time-scale of about a month seems the most likely fate in the North Sea.

References

Brochard, C.J.E. & Cadée, G.C. 2005 Tropische drijfzaden van de Nederlandse Kust
SWG Tabellenserie 30:1-66.

Cadée, G.C. 2007. Avocado seed from the Dutch coast. *The Drifting Seed* 13(1): 6-7.
www.visarjanuk.com

News and Notes

Announcing our Keynote Speaker for the 13th Annual Sea-Bean Symposium and Beachcombers' Festival, October 17-18th, 2008, Cocoa Beach Public Library: Richard LaMotte is vice president of the North American Sea Glass Association and author of the award-winning book *Pure SEA GLASS*. He resides on Maryland's Eastern Shore where his wife Nancy started a sea glass jewelry business in 1999 using shards they collected from the nearby Chesapeake Bay. While researching glass history for a lecture in 2002, he began to pursue answers to questions posed by his wife's customers. This led to extensive research into glass colors, as well as the physics and chemistry behind the glass forms found in a shoreline environment.

The initial release of the book *Pure* 2004 sold out in six-months and is now printing. In 2006 the book was for non-fiction in Writer's Digest 13th Published Book Competition. Richard been featured in *The Washington Post*, *Living*, *Coastal Living*, *The Boston & Islands Home*, *LAKE Magazine*, *Delaware Beach Life*, and on NPR and Television.



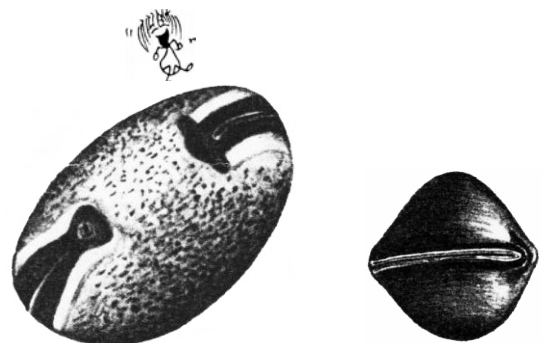
SEA GLASS in into its ninth awarded first place Annual Self- and his book have *Martha Stewart Globe*, *Cape Cod Chesapeake Life*, Maryland Public

Following ten years of beachcombing years of signings and lectures Richard thousands of unique shards and has developed an eye for sea glass identification. He is host for the 2008 North American Sea Glass Festival being held in Delaware on October 11th and 12th.

A beautiful thick-banded *Mucuna* necklace in the collection of Cecelia Abbott, from her daughter Erika Von Zoog. This necklace was purchased from a street vendor in Crete during a vacation to Greece. photo by Matt MacQueen



The Drifting Seed, 14.1, May 2008



From new Drifter Mike Ley: I live in Littleton, CO and recently spent a week on South Padre Island. One morning while walking on the beach looking for shells I struck up a conversation with a lady who told me about sea hearts and hamburger beans. I had never heard of them, much less ever found one; but, I thought I would look where she told me to and see if I could find one. I actually found my first sea heart that morning. I only had two days left to spend on the Island; but, I found a few more, and now I am "hooked." I found 7 sea hearts, 6 hamburger beans, and a few other drift seeds which I'm not sure of. I can't wait to go back to South Texas to find some more!!



I have been surfing the Internet finding out more about all the different drift seeds. I have been on the www.seabean.com site and have been reading lots of the back issues of *The Drifting Seed*. You do a nice job with that and I'm finding it very informative. I find all these seeds and their unique journeys to be very interesting and intriguing. I want to learn more about them, find out how to clean and polish them, and find some more. I have ordered *The Little Book of Sea Beans* from the web site.

I'm attaching a couple pictures of the sea hearts and other sea beans I found on South Padre Island for your consideration of including in the next issue of *The Drifting Seed*.



Daily Double Find: A few years back, Bruce & Nancy Haver of Stuart were lucky enough to find two paper nautilus on the same day, 50-feet apart. On April 29th, after 4 days of onshore winds, they found two Cathie's beans just 100-yards apart while looking through the high tide wrack! This beautiful bean has been on their list of things to find since it was named, how lucky



to score another DAILY DOUBLE.

For those of you who polish your sea-beans: Kearsarge Peg Co. would like to thank you for the business that has come from your web site in regards to our EC-4 Paste. In recent years, we have been getting many calls for the product. We are pleased to offer your Sea Bean Customers, 2 finishing kits to aide in the polishing of the Sea Beans. Listed below are the kits and what each contains. Please let all your fellow Sea Bean Polishers know of this new Kit.

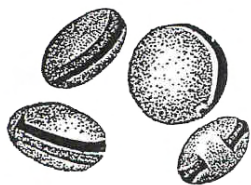
- | | |
|--|--|
| <p>1. Pegco Sea Bean Finishing Kit 1-(\$24.99)
(To include)
1 Pt. of EC-4 paste
15 lbs Coarse Walnut shell</p> | <p>2. Pegco Sea Bean Finishing Kit 2-(\$34.99)
(To include)
1 Qt EC-4 paste
25 lbs Coarse Walnut Shell</p> |
|--|--|

All shipping charges will be added to the price of the kits. Shipment will be UPS Ground standard residential rate. Thank you, for using Kearsarge Peg Co., in regards to all your sea bean-finishing needs.

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Fax: 603-374-2366
E-mail: kptft@kearsargepegco.com

Simple Guide to Common Drift Seeds

(Illustrations by Cathie Katz and Pamela J. Paradine)



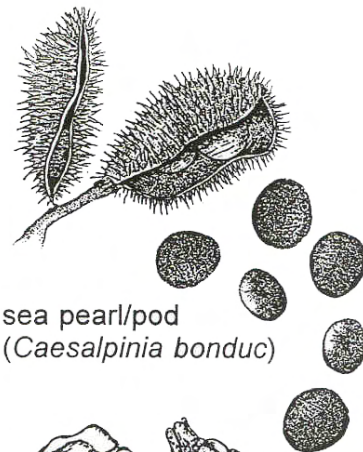
hamburger bean
(*Mucuna* spp.)



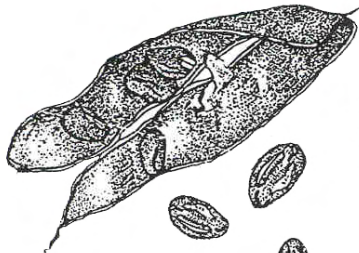
starnut palm
(*Astrocaryum* spp.)



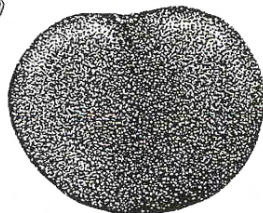
country almond
(*Terminalia catappa*)



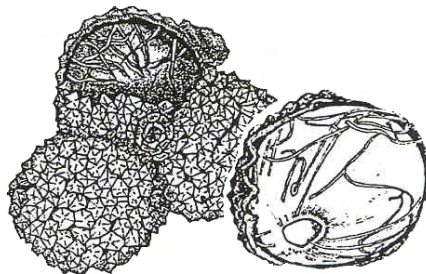
sea pearl/pod
(*Caesalpinia bonduc*)



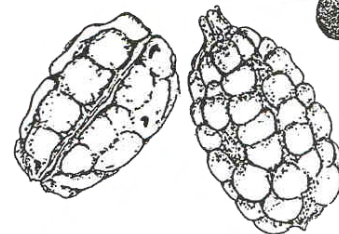
bay bean/pod
(*Canavalia rosea*)



sea heart
(*Entada gigas*)



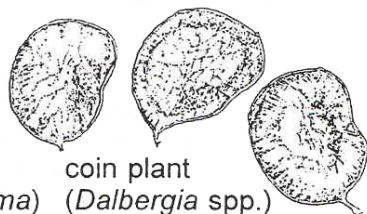
golfball/pod
(*Manicaria saccifera*)



hand grenade
(*Sacoglottis amazonica*)



Mary's bean
(*Merremia discoidesperma*)



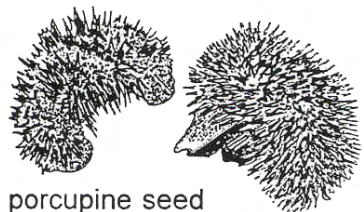
coin plant
(*Dalbergia* spp.)



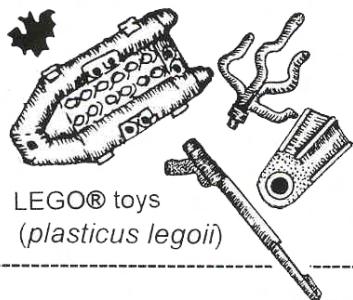
sea purse
(*Dioclea reflexa*)



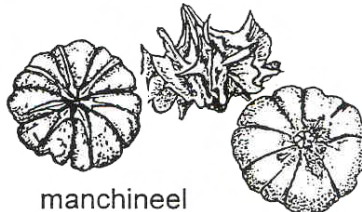
hog plum
(*Spondias mombin*)



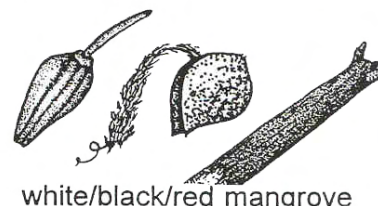
porcupine seed
(*Caryocar microcarpum*)



LEGO® toys
(*plasticus legoii*)



manchineel
(*Hippomane mancinella*)



white/black/red mangrove
(various genera)



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